ALIGNING CURRICULUM TO THE COMMON CORE:

A Journey to Increased Student Achievement

What is Curriculum?

Adapted from Great Lakes East Comprehensive Assistance Center at Learning Point Associates

Tool 1: Definition – What Is a Curriculum?

As defined by Bredenkamp and Rosegrant (1995), a *curriculum* is:

> An organized framework that delineates the **content** that children are to learn, the **processes** through which children achieve the identified curriculum **goals**, what **teachers do** to help children achieve these goals, and the **context** in which teaching and learning occur (p. 16; emphasis added).

To clarify the meaning further, Table 1 identifies what a curriculum is and what it is not.

Table 1. Characteristics of a Curriculum

A Curriculum:	**A Curriculum:**
• Is the "unpacking" or the interpreting of the standards into a set of skills to be learned.	• Is not a copy of the standards.
• Is a well-conceived hierarchy of skills based on students' cognitive, language, and social-emotional development.	• Is not a scope and sequence chart from a publisher, chapter headings from a textbook, or titles of stories.
• Is developed by all teachers working in collaborative grade-level and content-area teams.	• Is not developed by a few people in the school or district or by a publishing or textbook company.
• Is a planning and teaching tool that affects instruction and is adapted and differentiated to correspond to the needs and strengths of the learners.	• Is not a document that sits on a shelf and never changes.
• Includes content, skills (or learning targets), assessments, standards, and other information that teachers use in their planning and teaching.	• Is not simply a restating of the standards.
• Describes what the students need to know and be able to do.	• Is not a description of what the teacher will do (e.g., a lesson plan).
• Is aligned with the standards and across and within grade levels and content areas with increasing cognitive difficulty at each level.	• Is not individually unique with each teacher developing his or her own interpretation of the standards and without agreement within or across grade levels.

[1] Bredekamp, S. & Rosegrant, T. (1995), (Eds.). *Reaching potentials: Transforming early childhood curriculum and assessment, Volume 2*. Washington, DC: National Association for Early Childhood Education.

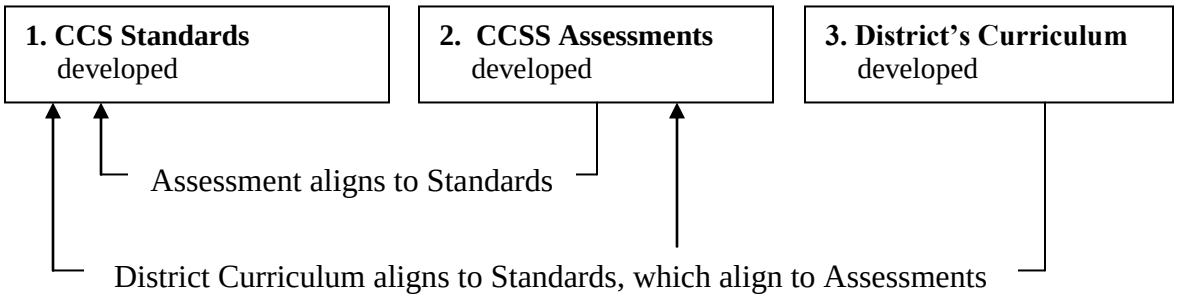
What Is "Aligning the Curriculum?"

Working in groups, grade-level and content-area teachers map the curriculum as described above. At the next level of mapping, teacher groups align the curriculum. A useful metaphor for curriculum alignment is the aligning of tires on a car. After a Midwest winter of snow, ice, and subzero temperatures, rough roads and potholes often require a trip to the mechanic. Without correct tire alignment, a car is difficult to steer, tending to veer from one side to the other creating a rough ride for the passengers—uneven and uncomfortable. In the same way, a curriculum that is uncoordinated and unplanned creates a rough and inconsistent "ride" for the learner. Teachers must ensure that what they teach is aligned with the subskills taught by other teachers at their grade levels and in their content areas, and aligned from one grade to the next with an increase in cognitive demand occurring at each grade level.

Without such an alignment, students face several challenges. First, they are unprepared for the next grade level because they did not gain the skills that next year's teacher expects them to have mastered. Second, the demand or the level of the skill does not increase, resulting in uninterested and unmotivated students who are forced to "learn" the same information, year after year.

The curriculum needs to align to the standards. A curriculum aligned to the standards inherently is aligned to state assessments, eliminating the misguided belief that educators must "teach to the test."

Figure 1. Alignment of Standards, PARCC Assessments, and District Curriculum



Tool 2: The Essential Components of a High-Quality Curriculum

For many of us, the curriculum we received on our first day of teaching was a teacher's manual and, perhaps, a scope and sequence chart. Today, a curriculum is much more than a teacher's manual, student textbook, or pacing guide. Five components emerge from the research as foundational or essential: content, corresponding standards, skills (or learning targets), formative assessments, and time frame. Some schools may find additional components to be useful and are welcome to include those in the curriculum as well.

Essential Components of High-Quality Curriculum

1. **Content**
   - The subject matter or topic to be introduced; may emerge from classroom monthly themes/topics or six-week projects.
   - Stated as a noun or noun phrase.
   - Examples: "Analyzing text," "Central and supporting ideas," "Citing text."
2. **Standard**
   - The standard that corresponds to the content.
3. **Skills (Learning Targets)**
   - What the learner must be able to know or do (as related to the standard).
   - Stated using action verbs or I can . . . statements.
   - Is the most critical component of the curriculum.
   - Developed by teacher groups discussing and determining the underlying meaning and specifics of the standard.

Example: 9-10.RI.2: 1) Determine a central idea of a text, 2) Analyze its development over the course of the text, 3) Analyze how it emerges and is shaped and refined by specific details, 4) Provide an objective summary of the text.

4. **Formative/Summative Assessment**
   - Describes how the skill will be measured to determine level of student learning.
   - Formative assessments conducted on daily or weekly basis.
   - Includes teacher-developed observations, rubrics, interviews, and quizzes with descriptions or details of each provided.
   - May be commercially produced formative assessments such as Wireless Generation or Aimsweb.
   - Summative assessments conducted at the end of a unit, semester, or course which measure at the standard level and may assess multiple standards together.

- May be commercially produced assessments such as Acuity, ECAs, STI, or common teacher created assessments.

5. **Time Frame**
   - The week(s), month(s), grading periods that teaching and learning occurs.

Additional Curriculum Components

In addition to the five required curriculum components described above, some educators find additional components to be useful. However, experience shows that developing fewer components reduces the complexity of the mapping task. The components below might be added to later drafts of the curriculum.

6. **Essential Questions**
   - An overarching question from the student's point of view that demonstrates the value and purposes of learning for the student.
   - Example: "Why is it important to consider the audience and their needs in writing persuasive letters?"
7. **Activities**
   - Description of the key exercises that all teachers use with the students.
8. **Resources**
   - Key materials that all teachers agree to use, such as website links, titles of books and videos, section titles from textbooks, and page numbers.
   - Teachers may add additional personal sources in their lesson plans.
9. **Modifications and Accommodations**
   - Modifications—A modification changes what a student is expected to learn to allow the student to participate meaningfully with other students. Examples are an outline as the assignment in place of an essay; choosing from a word bank of choices for answers; or use of an alternative book on the same topic as the other students.
   - Accommodations—An accommodation does not substantially change the instructional level, content, or performance criteria. Examples are taking a test orally (rather than written), having a large-print textbook, or a having additional time to take the test.

Tool 3: Curriculum Self-Assessment—
How Does Our Curriculum Measure Up?

◈ *Personal Reflection:* What does curriculum development look like in your school? Describe your school's curriculum development process, how curriculum is monitored, and how curriculum is adjusted.

Use the tool below to determine the quality of your English/language arts or mathematics curriculum. The assessment criteria are the existence and quality of the five essential components from the curriculum at Grades 9, 10, and 11.

➲ *Directions:*

Assess Grades 9, 10, and 11 of the school/district curriculum by rating the components as follows:

1—the component is missing or does not correspond to the descriptors

2—the component is present and includes some of the descriptors

3—the component includes all of the descriptors

Table 2. Self-Assessment of Curriculum

Our curriculum includes the following components	Grade 9			Grade 10			Grade 11		
1. Content • Subject matter or topic to be introduced; emerges from monthly themes/topics or six-week projects • Stated as a noun or noun phrase	1	2	3	1	2	3	1	2	3
2. Standard • The standard that corresponds to the content.	1	2	3	1	2	3	1	2	3
3. Skills • What the learner must be able to know or do (as related to the standard) • Stated using action verbs or I can . . . statements • Developed by teacher groups discussing and deciding the underlying meaning of the standard	1	2	3	1	2	3	1	2	3
4. Formative/Summative Assessment • Describes how the skill will be measured to determine level of student learning • Conducted on daily or weekly basis • Summative assessments conducted at the end of a unit, semester, or course which measure at the standard level and may assess multiple standards together.	1	2	3	1	2	3	1	2	3
5. Time Frame • The week(s), month(s), grading periods that teaching and learning occurs	1	2	3	1	2	3	1	2	3
Our E/LA or mathematics curriculum is of high quality with well-developed required components. ____ Yes ____ No									

◈ *Think-Write-Pair-Share:*

1. Based on your assessment of where you are now with curriculum development, what parts of your process should you continue as you realign your curriculum to the Common Core State Standards? What about your current curriculum development process needs to be improved?

Tool 4: Research and Literature Review: How Does Curriculum Affect Student Learning?

> "In the array of factors that define high-performing schools, curriculum alignment enjoys a position of exceptional prominence" (Murphy, 2007, p. 75).

What is known about curriculum and its impact on student learning? Both research and expert opinion state that a rigorous, standards-based, grade- and content-level-aligned curriculum is one of the key components of high-performing schools. An aligned and coherent curriculum is routinely listed in the literature as one of several characteristics of high-performing schools.

In one study, teachers and administrators from 50 school districts ranked *curriculum alignment* as the number one practice that led to increased student achievement (Kercheval, 2001). In a large-scale survey of almost 3,000 teachers and principals in California, "implementing a *coherent, standards-based curriculum* and instructional program" was selected as second in a list of practices associated with high levels of student achievement (EdSource, 2006, p. 2; emphasis added) with attention to student learning being the number one response.

The importance of curriculum emerged in a 2006 report of 70 districts that applied for the Broad Prize, an award given to urban school districts that "significantly improve student achievement while reducing achievement gaps among ethnic groups and between low- and high-income students" (Zavadsky, 2006, p. 69–70). All five finalists (as well as finalists in succeeding years, McFadden, 2009) indicated that their success in part belonged to developing and implementing curricula that were detailed and properly sequenced, aligned between grades and across all schools, developed by classroom teachers and curriculum specialists from schools and district offices, and which often included higher expectations than the standards.

In addition to the research, educational scholars write of the importance of the high-quality curriculum. A *guaranteed and viable curriculum* receives a ranking of first of 15 school-level factors that impact student achievement in Marzano's (2003) review of the research. Educational scholar Herbert J. Walberg (2007) encourages those in charge of restructuring schools "*to align instruction with standards*" (p. 87; emphasis added) as the first in a list of 10 principles to improve achievement.

What is a curriculum map?

Curriculum maps cover a wide range of important curricular activities. Typically, they attempt to:

- address the total education of the students in a building
- create a "word snapshot" of the educational activities of every classroom within a building or district
- capture the content, skills (learning targets), and assessments taught or administered by every teacher within a school building or district
- organize this information into an easily accessed visual that presents a timeline of instruction by teacher and course.

Curriculum map data is often entered into a purchased software package that organizes the data and provides keyword searches to locate specific curricular information. Regardless of the organization method, curriculum maps address the major ideas, concepts, skills (learning targets), and processes that drive a class, as opposed to attempting to map every topic of discussion in classrooms, which would unnecessarily consume time and energy. One of the most important features of curriculum maps is that they are geared to the school calendar, and each teacher's time line is precisely displayed on the teacher's map.

Why create a curriculum map?

- Curriculum maps lead educators and their community to ask and answer the provoking questions that improve instruction and promote achievement.
  - For example, parents of students in the same grade might ask, "Why is my friend's son studying decimals in Mrs. Titus' class and my own son is not studying decimals in Mr. Clark's class?"
  - Teachers might inquire, "Why do some of my students know how to paraphrase and cite research while others are totally lost?"
- Members of an educational community can look at the school's curriculum map to discover when and if specific content is covered.
- This helps to reassure interested parents when specific information will be taught.
- It can also serve as the impetus to align courses horizontally.
- A curriculum map provides insight into the big picture, and responsible use of the information contained in a curriculum map can strengthen instruction school wide.

Most teachers, department chairs, and supervisors for curriculum agree that the creation of pacing guides and course outlines is easy; convincing skeptics to accomplish the goals established by such documents often requires proof that following planned curricula best serves the students.

Skeptics of curriculum mapping are usually convinced when reviews of teacher diary maps clearly magnify problem areas in instruction, such as redundancy, inconsistencies, and misalignment. Horizontal alignment assures that all teachers of a common grade level address specific subject matter following the same time line. Such alignment is crucial for school systems to be successful with state accountability and standards-based assessments. A faculty or department review of curriculum maps is designed to motivate teachers to correct alignment problems, bringing their instruction into line with a planned curricula, thus guaranteeing what students are taught.

Review teams should be comprised of any combination of administrators and educators, subject review by department is a logical beginning point. Departments can investigate the map to identify gaps in the vertical and horizontal alignment of courses. Courses that are correctly aligned permit teachers to quickly assess what students mastered in the preceding grade and to focus on building skills and knowledge, as opposed to consuming valuable time with unnecessary reviewing and re-teaching. A team of reviewers should also inform teachers of overlaps in content or major assignments to promote interdisciplinary connections.

Curriculum mapping also allows teams of teachers to study their student achievement data along with their curriculum map data to make adjustments to their instruction based on what students have learned and what they still need to learn.

◈ *Personal Reflection:*

1. How can curriculum mapping benefit your school?

References

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Tool 5: How a Curriculum Is Developed— The Mapping and Aligning Process

How does a district or school begin to design or develop a new curriculum? The answer is through mapping and aligning the curriculum—a process utilized by educators nationally and internationally.

What Is "Mapping the Curriculum?"

In mapping the curriculum, teachers and administrators work in groups to design the curriculum that is to be taught and learned. At the core of the process is the "unpacking" or "deconstructing" of the standards or, put another way, the pealing away of the standard to expose the underlying explicit and implicit skills.

For example, a group of ninth-grade teachers begin to discuss the skills underlying the standard: "**9-10.RL.3 Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.**"
As the teachers unpack the standard, they realize that their students must 1) Identify complex characters in a text; 2) Identify evidence in a text that makes the character complex; 3) Identify conflicting motivations; 4) Identify the theme of a story; 5) Analyze how characters change over the course of the text; 6) Explain how characters' motivations/traits affect the plot; 7) Describe the conflicts and motivations in character(s); 8) Analyze how the character(s)': conflicts, motivations, and interactions advance the plot or theme
The teachers then create a curriculum map, including the seven essential components, agreeing upon what and when the subskills will be taught and assessed throughout the school year.

Why Do We Deconstruct the Standards?

A learning target (also known as an objective, learning intention, learner outcome, expectation, etc.) is simply ***a clear description of what is to be learned***. It should provide a clear vision of the "destination" for student learning. It should focus on describing what is to be LEARNED vs. what is to be DONE (activity). A learning target can take from "five seconds to five weeks" depending on the complexity of the knowledge/reasoning/skill/product called for and its overall importance in the curriculum–as well as the age/abilities (prior experience and cognitive development) of your students.

In order to make targets clear to students, they must first be clear to teachers. The best way to reach clarity and consensus on what students must learn (i.e., standards) is by having a conversation with a group of other teachers or "experts" who are well-versed in the content/concepts/standards that must be addressed in a particular content area. Standards are typically high-level expectations that need to be "broken down" into scaffolded segments of learning (i.e., targets) that allow a focus on one key concept or element (knowledge, reasoning, skill) at a time.

If students know what is expected of them, they are much more likely to achieve success. The learner should be able to "see the target" as well as define what success with the target looks

like. Consider the following primary science **standard** (which overall is a PERFORMANCE SKILL standard):

> Students will use senses and scientific tools (e.g., hand lens/magnifier, metric ruler, balance, etc.) to observe, describe and classify earth materials (solid rocks, soils, water and air) using their physical properties.

One **performance skill learning target** may be:

> use senses to observe different earth materials

In **student-friendly terms**, a teacher may post or share a target like:

> *I can make observations of rocks, soil, and water with my senses. This means I can tell more about them by using my eyes to look, my hands to touch, my ears to listen to, my nose to smell, and sometimes my mouth to taste.*

This makes clear to the students not only what they are **learning** to do (make observations), but also how they will know if they have done it successfully or well. This target may remain for a week or more as the teacher engages students in multiple learning experiences, using formative assessments of their competence to plan each subsequent experience.

When deconstructing a standard into a set of targets, there are some criteria that should be met to ensure quality.

- Each target should clearly align to and support attainment of the standard.
- Each target should be clear to the teacher (and to the students) and focused on what is to be LEARNED – not just an activity.
- In looking at the "set" of deconstructed targets for the standard collectively, others with expertise in the same content area should generally agree that the overall intent of the standard is met and that the targets would, in fact, scaffold the learner toward mastery/attainment of the overall standard.

So, when is a deconstruction considered wrong or weak?

It is wrong if there is a misunderstanding of the intent of the standard -which is why many "experts" are needed to ensure consistency in interpretation.

The deconstruction would be considered weak if it

- lacks developmental continuity (ability to scaffold learning based on the developmental needs of the learners) **or**
- fails to adequately address the content/concept(s) in the standard.

The *Classroom Assessment for Student Learning: Using It Right, Doing It Well* framework provides guidance for teachers to design high quality formative and summative assessments and to plan/select rigorous and congruent learning experiences. This approach first requires an in-depth analysis and discussion of the standard as a whole—reaching consensus on the true intent of the standard with respect to what students must know or be able to do to demonstrate mastery or proficiency. Once this occurs, the **STANDARD** is classified in one of 4 ways:

Knowledge/Understanding – some knowledge/facts/concepts TO BE LEARNED OUTRIGHT; some TO BE RETRIEVED using reference materials; includes PROCEDURAL KNOWLEDGE—know how to do something (e.g., uses scientific notation to represent very large numbers)

Reasoning – THINKING PROFICIENCIES-using knowledge to SOLVE A PROBLEM, MAKE A DECISION, PLAN, etc.

Performance Skill – behavioral demonstrations; where the DOING is what is important; USING KNOWLEDGE AND REASONING to PERFORM SKILLFULLY (*if a 'skill' doesn't really require using both some knowledge and some reasoning, it is probably PROCEDURAL KNOWLEDGE and would be classified as Knowledge/Understanding*)

Product – where the characteristics of the final PRODUCT are important; using knowledge, reasoning, and skills to PRODUCE A FINAL PRODUCT

The important thing is to consider the overall standard as a whole, first and foremost. Once that determination is made, then the "deconstruction" begins. **4 questions drive the process**:

1. What **knowledge** will students need to demonstrate the intended learning?
2. What **patterns of reasoning** will they need to master, if any?
3. What **skills** are required, if any?
4. What **product development capabilities** must they acquire, if any?

(Excerpted and adapted from *Classroom Assessment for Student Learning: Doing It Right, Using It Well*, Rick Stiggins, et al; *Seven Strategies of Assessment for Learning*, Jan Chappius; *Active Learning Through Formative Assessment*, Shirley Clarke)

Step One

Standard:

Step Two

Type:

☐ Knowledge ☐ Reasoning ☐ Performance ☐ Product

Step Three

Learning Targets

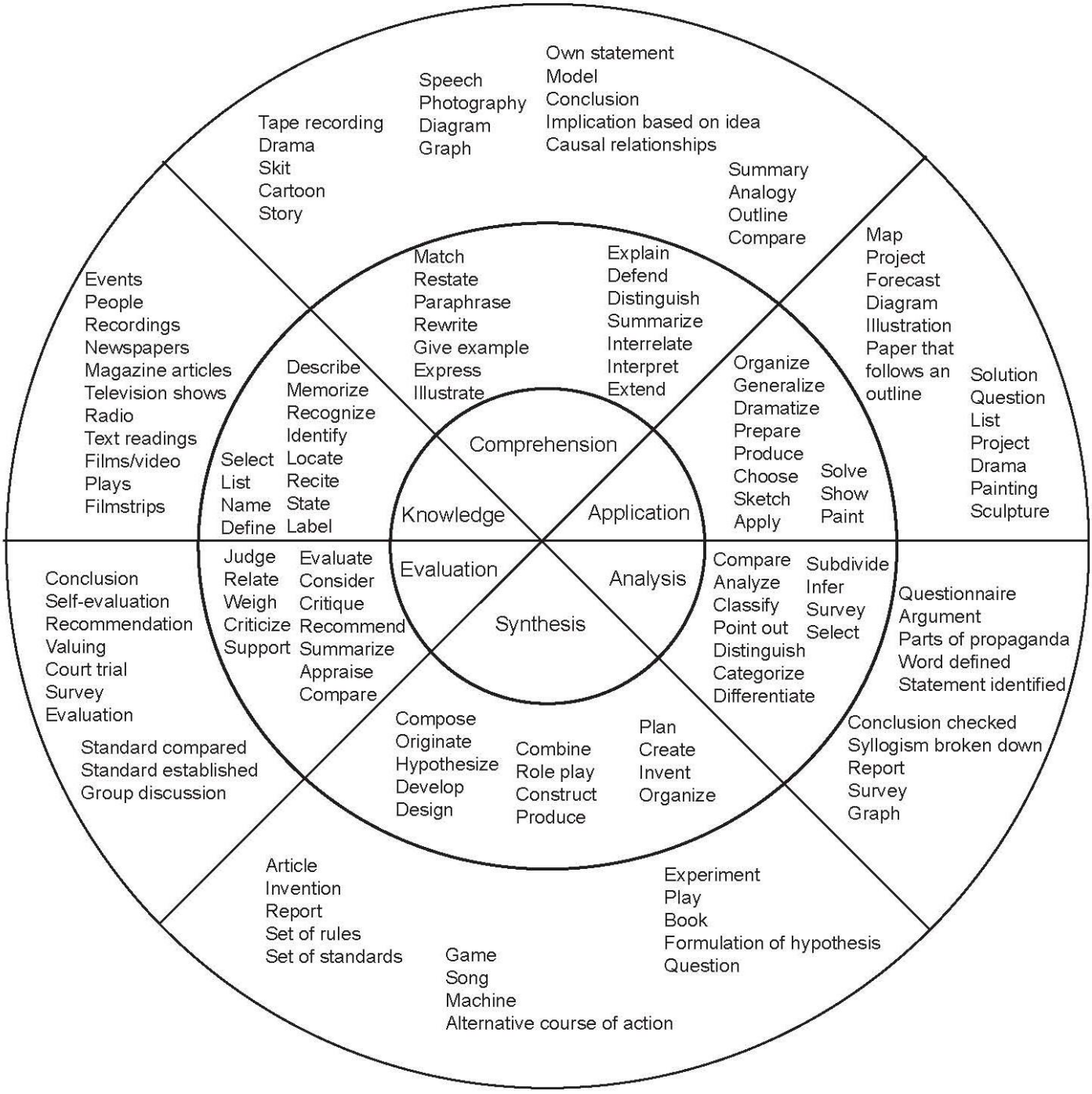
What are the knowledge, reasoning, performance, or product targets underpinning this objective?

Knowledge Targets	Reasoning Targets	Performance Targets	Product Targets
What must students know to master this standard?	How are students using knowledge to solve a problem, make a decision, form a plan, etc?	What must students be able to do? How are they using knowledge and reasoning to perform a task?	What are students asked to produce or create?

Matrix of Learning Target Verbs

Knowledge	Reasoning	Performance	Product
Explain	Predict	Observe	Design
Describe	Infer	Perform	Produce
Identify	Classify	Compose	Make
Define	Compare	Conduct	Write
Recall	Summarize	Speak	Draw
Recognize	Analyze	Operate	Represent
Select	Evaluate	Investigate	Display
List	Generalize	Collect	Model

Bloom's Taxonomy Verbs and Matching Assessments



Tips for Deconstructing Standards

Analyze the wording of standards to determine key concepts and key skills.

- Read through the standards
- Circle verbs to identify key skills
- Underline nouns and noun phrases to identify key concepts

Example 9-10.RI.1:

Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

Step One
Standard:

Step Two
Type:
☐ Knowledge ☐ Reasoning ☐ Performance ☐ Product

Step Three

Learning Targets
What are the knowledge, reasoning, performance, or product targets underpinning this objective?

Knowledge Targets	Reasoning Targets	Performance Targets	Product Targets

Deconstructions of the Common Core State Standards can be found at:
http://www.education.ky.gov/KDE/Instructional+Resources/Curriculum+Documents+and+Resources/ATTENTION+-+Leadership+Networks.htm

Checklist for Learning Targets: Grade Level		
	+	△
Learning Targets		
Do the learning targets clearly describe and define the expected knowledge and abilities of the learners?		
Are the learning targets simply stated?		
Is it possible to collect accurate and reliable data for each learning target?		
Are the learning targets distinctive and specific to the standard?		
Are the learning targets stated so that it is possible to use a single method to measure learning, where applicable?		
Are the learning targets stated so that learning requiring different assessment methods are not bundled into one statement?		
Are the learning targets stated to accommodate alternate assessment methods, where applicable?		
Does each learning target begin with an action verb to specify definite, observable skills?		
Does the language of each learning target describe student rather than teacher behaviors?		
Does each learning target describe a learning outcome, not a process or activity?		
Comments:		

Checklist for Learning Targets: Vertical		
Grade Level(s) Below	+	△
Learning Targets		
Do the learning targets clearly describe and define the expected knowledge and abilities of the learners?		
Are the learning targets simply stated?		
Is it possible to collect accurate and reliable data for each learning target?		
Are the learning targets distinctive and specific to the standard?		
Are the learning targets stated so that it is possible to use a single method to measure learning, where applicable?		
Are the learning targets stated so that learning requiring different assessment methods are not bundled into one statement?		
Are the learning targets stated to accommodate alternate assessment methods, where applicable?		
Does each learning target begin with an action verb to specify definite, observable skills?		
Does the language of each learning target describe student rather than teacher behaviors?		
Does each learning target describe a learning outcome, not a process or activity?		
Comments:		

Complete the T-Chart below. What are the advantages of teachers working in teams to deconstruct the standards themselves? What are the advantages in using the deconstructed standards completed by another expert team?

Advantages of Doing the Work Ourselves	Advantages of Starting with Deconstructed Standards

What Is the Most Important Part of the Curriculum Mapping Process?

The answer is simple: the discussions held by teachers and administrators are the most important part of curriculum development. Although the process of writing and filling in charts or maps of what is taught can easily become the focal point, it should not be so**. Teachers meeting in grade level and content area teams to discuss what should be taught, how the curriculum gets enacted, and studying the student results are the most important part of the curriculum improvement process.**

Much of the conversation also needs to focus on the fact that we must appreciate the value of time and stop preventing students from engaging in immense amounts of reading, discussion, and writing. These are the indispensable and primary means of acquiring content knowledge and intellectual skills even—and especially—in the digital age (Phillips & Wong, 2010). Every student needs to spend hundreds of hours actually reading, writing, and speaking for intellectual purposes, and teachers must work collaboratively to plan for this to happen.

◈ *Personal Reflection:*
What is the most important part of the curriculum mapping process?

References

Philips, V. & Wong C. (2010, February). Tying together the common core of standards, instruction, and assessments. *Phi Delta Kappan, 91(5),* 37-42.

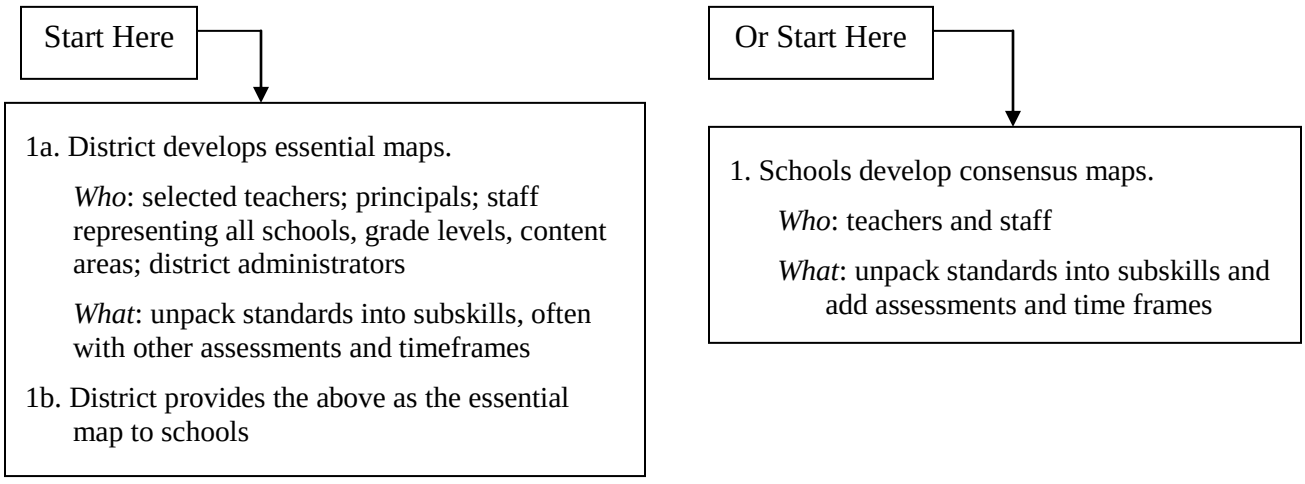
What Are the Different Kinds of Maps, and Which Ones Should We Develop?

Maps may be developed by the district, the school, groups of teachers, or individual teachers. The mapping and aligning is to occur at the school level, although larger districts may first develop a "core," which is called the *district essential map*. At the school level, groups of teachers work together to create the *school consensus map.*

- **District Essential Map**
  - Created by groups of teachers and administrators to determine the essential or "core" subskills of the standards to be taught, learned, and assessed.
  - From these, the schools develop their consensus maps.

- **School Consensus Maps**
  - Created by groups of teachers as they unpack the standards.
  - Initially meet in grade-level or content-area groups; later share and improve maps in cross-grade-level and cross-content-area teams.
  - Describes the agreed upon skills to be taught, learned, and assessed.

Where Do We Start?



Tool 6: How a Curriculum Is Developed: The Steps

Heidi Hayes Jacobs (1997), a national curriculum expert, developed a seven-step process for mapping and aligning the curriculum. Schools and districts around the world use this process. Before attempting to implement the steps, district staff should attend workshops and study curriculum mapping books.

Step 1: Collect the Data

- Create maps of what has been taught or what will be taught.
- Begin unpacking the standards*, delineating the skills needed to achieve mastery of the standard.
- Consider a standard in terms of its underlying explicit or implicit conceptual understandings, prior knowledge requirements, content knowledge, and cognitive processes (e.g., evaluating, synthesizing, comparing).

Step 2: Read-Through of Group's Maps

- Share and read one another's maps.
- Improve the consistency and quality of the maps through collegial critique; note findings.
- Continue to map, based on feedback received from others.

Step 3: Mixed Small-Group Review to Share Findings

- Meet in groups across grade levels or content areas.
- Continue unpacking standards and noting findings.

Step 4: Large-Group Review of All Findings

- Bring all findings together from smaller groups.
- Collegially and cooperatively discuss findings in terms of gaps, redundancies, consistency, timeliness, and increased cognitive demand.

Step 5: Make Immediate Revisions

- Reach solutions for those findings that allow for quick and mutual agreement.

Step 6: Long-Term Planning for Changes

- Research, study, and investigate the more difficult findings.
- Design a plan of action for resolving the difficult challenges or changes in the curriculum.

Step 7: Continue the Cycle

***http://www.education.ky.gov/KDE/Instructional+Resources/Curriculum+Documents+and+Resources/ATTENTION+-+Leadership+Networks.htm**

Reference: Hayes Jacobs, H. (1997). *Mapping the big picture: Integrating curriculum and assessment, K–12.* Alexandria, VA: Association for Supervision and Curriculum Development.

To ensure curriculum is high-quality and guaranteed, I have added Steps 8-10, which take place after curriculum is developed.

Step 8: Monitor Implementation of Planned Curriculum

- Principals, coaches, and/or teacher leaders observe implementation in the classrooms.
- Meet regularly to discuss how the curriculum will be implemented and share lesson and unit ideas.
- Meet regularly to discuss students' learning of the planned curriculum.

Step 9: Analyze Student Achievement Data

- Study student work to determine effectiveness of the enacted curriculum.
- Study formative and summative assessment results to determine effectiveness of the enacted curriculum.

Step 10: Make Revisions

- Make immediate adjustments to meet the needs of students.
- Make adjustments to the district essential map or school consensus curriculum map for next year if the data warrants a change in the planned curriculum.

◈ *Personal Reflection:*

1. Who in your school/district needs to be involved for steps 1-7? What will your role be?

2. What must happen for steps 8-10 to take place in your school? How will you ensure this happens?

3. **What will you do next as a result of your learning today?**

Tool 7: Resources for Curriculum Mapping

IDOE Curriculum Map Resources
https://learningconnection.doe.in.gov
Click on Curriculum Map Resources and click on the first link.

Mapping Books

Hale, J.H., (2008). *A guide to curriculum mapping: Planning, implementing, and sustaining the process*. Thousand Oaks, CA: Corwin Press.

Hayes Jacobs, H. (1997). *Mapping the big picture: Integrating curriculum and assessment, K–12.* Alexandria, VA: Association for Supervision and Curriculum Development.

Hayes Jacobs, H. (Ed.). (2004). *Getting results with curriculum mapping.* Alexandria, VA: Association for Supervision and Curriculum Development.

Udelhofen, S. (2005). *Keys to curriculum mapping: Strategies and tools to make it work.* Thousand Oaks, CA: Corwin Press.

Mapping Coursework

Curriculum Mapping: Charting the Course for Content
- Two videos with facilitators guide
- By Heidi Hayes Jacobs, 1999
- Available through Association for Supervision and Curriculum Development, http://www.ascd.org/portal/site/ascd

Curriculum Mapping I, II, III Courses
- Multiple 30-hours of courses
- By Heidi Hayes Jacobs
- College credit available
- Available through Public Broadcasting Services, "TeacherLine"
- http://www.pbs.org/teacherline/search/?q=curriculum+

Tool 8: Getting Ready – Create Teacher "Buy-In"

Teachers today, especially in struggling schools and districts, face an overload of initiatives and programs. It is important that curriculum mapping not be viewed as "one more thing" but as a process that has a high probability of changing teacher instructional practices, which in turn, will lead to increased student achievement.

As a first step, the district needs to review the initiatives at each school and assist its schools in reducing that number to a manageable few that focus directly on the instruction of the student groups not meeting AYP. Once the number of initiatives is reduced, teachers are more likely to accept and participate in designing a new curriculum.

What Needs to Be in Place Before We Begin?

As with any new project or initiative, curriculum mapping and aligning will require time—time for teachers and principals to work alone and with others. Designing the curriculum through mapping is a two- to three-year process. In addition, mapping the curriculum requires a willingness on the part of teachers to openly share their instructional practices with one another. Many teachers are unaccustomed to sharing what and how they are teaching behind their closed doors. School and district leadership will need to ensure that a culture is created that reflects collegiality through establishing strong team-based approaches such as professional learning teams.
Other ideas for gaining teacher buy-in are listed below.

Ideas for Gaining Teacher Acceptance and Involvement in Designing a New Curriculum

- Communicate early and often about the upcoming curriculum mapping and aligning plan.
- Have the leadership team(s) map first and share their work and findings with other teachers in informal ways, initially.
- Attend curriculum mapping workshops with leadership and school teams. Share information learned at staff meetings.
- Conduct a book study (Tool 8).
- Begin with paper maps with the leadership team presenting them at staff meetings.
- Read and discuss personal stories from teachers, selected articles, and research (see below).

Personal Stories from Teachers, Selected Articles, Research, and Best Practices

Personal Stories

1. Getting Results from the Local Level…Cobb County, Georgia
   Martin, L. (Volume 1, No. 3) of "Curriculum Mapping Newsletter by Curriculum Designers." Retrieved 3/9/09 from http://www.curriculumdesigners.com/Static/Resources/Newsletters/Volume%20I,%20No,%203%20-%20Mapping%20Around%20the%20World.pdf

   Overview: A short reflection of one county's first year of curriculum mapping from the view of the teachers and the assistant superintendent.

2. Mapping the Journey to Student Success
   Miller, L. (2004). Retrieved 3/9/09 from
   http://www.oct.ca/publications/professionally_speaking/september_2004/mapping.asp

   Overview: A reader-friendly description of teachers' experiences in curriculum mapping. Teachers from the Toronto School District describe processes and positive outcomes of mapping and present Heidi Hayes Jacob's seven-step mapping process.

Research and Best Practices

1. A Case Study of Key Effective Practices in Ohio's Improved School Districts
   Kercheval, A. (2003). Bloomington, IN: Indiana Center for Evaluation. Retrieved 3/9/09 from
   http://www.indiana.edu/~ceep/projects/PDF/200107_Key_Effec_Prac_Interim_Report.pdf

   Overview: In this descriptive study, teachers and administrators from 50 Ohio districts rank curriculum alignment as the number one practice that led to increased student achievement in their districts.

2. Changing and Monitoring Instruction
   Walberg, H. J. (2007) in *Handbook on restructuring and substantial school improvement* (pp. 77–90). Lincoln, IL: Center on Innovation and Improvement.

   Overview: Educational scholar H.J. Walberg states that aligning instruction with standards is the first of ten principles for improving student achievement, especially for schools in restructuring.

3. How NLCB Drives Success in Urban Schools
   Zavadsky, H. (2006). *Educational Leadership, 64*(3), 69-73.

   Overview: A report of strategies used by 70 low-performing districts that applied for the Broad Prize for closing the achievement gap. Strategies implemented by all five finalists included developing and implementing curricula that were: (a) detailed and properly sequenced, (b) aligned between grades and across all schools, (c) developed by classroom teachers, and (d) often included higher expectations than the state standards.

4. Similar Students, Different Results (SSDR): Why Do Some Schools Do Better?
   EdSource, (2006, June). Retrieved 3/9/09 from
   http://www.edsource.org/assets/files/SimStu05.pdf

   Overview: Describes a large-scale survey of almost 3,000 teachers and principals in California to determine the practices they associated with high levels of student achievement. A "coherent, standards-based curriculum and instructional program" was selected as second only to "prioritizing student achievement."

5. What Works in Schools: Translating Research into Action
   Marzano, R. J. (2003). Alexandria, VA: Association for Supervision and Curriculum Development.

   Overview: Marzano's determined in his extensive review of the research that "a guaranteed and viable curriculum" ranked first among 15 school-level factors that impact student achievement.

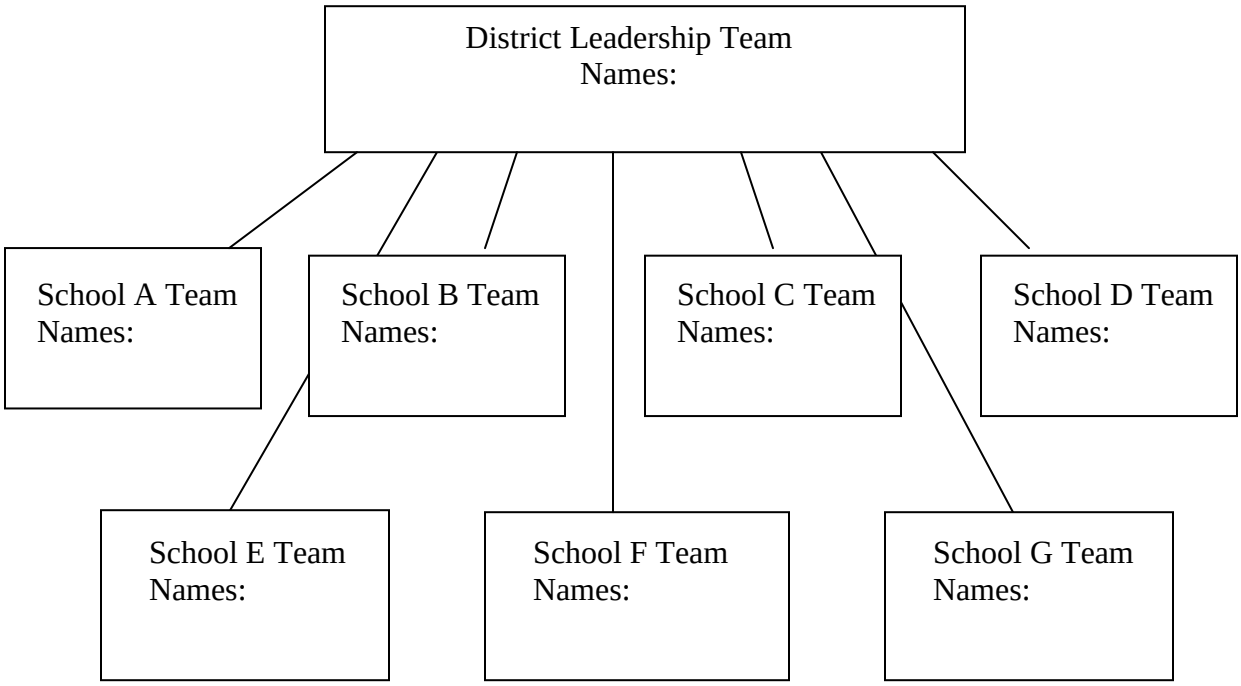
Disclaimer: The listing of the above resources does not indicate endorsement of a particular product, service, or person by the Indiana Department of Education.

Tool 9: Getting Ready – Establish a Leadership Team and an Organizational Structure

The first step in preplanning the curriculum mapping and aligning process is to create a structure within the district and schools that allows for organizing, communicating, and implementing the work. A sample team organizational structure is shown in Figure 2.

Teams at each school and at the district level serve as communication links, decision-makers, first adopters of the process, and trainers. Having a solid team that meets often and communicates well increases the level of teacher participation and consistency across the schools.

Figure 2. Organizational Structure (sample)



Tool 10: Getting Ready – Interview and Hire a Consultant

Mapping software companies often indicate that they can provide all the needed professional development for the district and schools. However, this is not always the case; additional training beyond the software mapping companies is often needed. Thus, districts may want to use a curriculum mapping consultant either internally or externally. When interviewing the consultants, the district should consider the skills and experiences of the interviewee, as shown in Table 4.

Table 4. Interviewing and Hiring a Consultant

The Consultant Has Experience With and Is Able to Assist Us In …	**Consultant 1**	**Consultant 2**	**Consultant 3**
1. Reworking schedules to find time for teachers to work together.			
2. Creating an organizational structure for mapping.			
3. Developing a culture of working collaboratively and sharing and critiquing maps.			
4. Creating a map of the implementation plan.			
5. Instructing teachers in the five required components, and especially in how to unpack the standards.			
6. Providing this number of days/hours of training: __ on the theory, benefits, processes of curriculum mapping. __ on unpacking the standards (including practice). __ on reviewing other's maps (including practice).			
7. Developing consensus maps within and across grade levels and content areas.			
8. Using the online mapping system selected, including the summaries and reports.			
Consultant's Experience and Dispositions to Consider	**Consultant 1**	**Consultant 2**	**Consultant 3**
1. Has been a teacher or administrator within the past few years.			
2. Understands the requirements for schools and districts in improvement status under NCLB.			
3. Communicates well; adapts the training to the experience and needs of teachers; provides support, encouragement, and problem solving.			
4. Has worked extensively with IDOE standards.			
Consultant's Fee/Daily Rate	**Consultant 1**	**Consultant 2**	**Consultant 3**
Consultant's fee or daily rate.			

Tool 11: Getting Ready – Select a Software Program for Mapping

Ten years ago, teachers mapped their curriculum on large pieces of paper with columns for months, content, skills, and assessments. The papers were posted in the halls or in the faculty lounge, and teachers spent professional development days comparing and contrasting their maps to eventually create a large mural of a consensus map.

Today, computer software programs include templates for entering the map components and include searching and reporting features. Although these features expedite the entering of data, the most important factor still remains the conversations and discussions held between teachers.

IDOE Title I has studied the computer software programs and selected four such programs for districts to review. It is the district's responsibility to contact each company, meet with them, and pilot their systems for several weeks before deciding which one to purchase.

IDOE Title I Preferred Software Programs for Mapping (listed in alphabetical order)

Atlas Curriculum Management System
Website: www.rubicon.com/AtlasCurriculumMapping.html
Address: One World Trade Center, Suite 1200, 121 SW Salmon St., Portland, OR 97204
Phone: 1-800-971-4200

Build Your Own Curriculum
Website: www.schoolsoftwaregroup.com
Address: School Software Group, 61 N. Meadow Row Court, Appleton, WI 54913
Phone: 1-800-596-0735
E-mail: ctrina@schoolsoftwaregroup.com

Curriculum Mapper
Website: www.clihome.com
Address: Collaborative Learning, 1S660 Midwest Rd., Ste. 310, Oakbrook Terrace, IL 60181
Phone: 1-800-318-4555
Email: info@clihome.com

Other providers may be suggested to IDOE, who then will investigate their products and review examples of their work to determine their acceptance as preferred providers

Table 5. Criteria to Consider in Selecting a Software Program

The Program/System	**Company 1**	**Company 2**	**Company 3**
1. Provides columns for the five essential components in a horizontal table, on a single page with a full text of the standards (not links to standards).			
2. Has Indiana standards fully loaded for teachers to cut and paste into their maps.			
3. Allows for consensus maps and essential maps.			
4. Allows teachers to view one another's maps.			
5. Allows for recording of maps by various time frames: months, weeks, or grading periods.			
6. Searches and sorts by words or phrases, courses, grade levels, or standards to create a variety of reports with accompanying graphs and visuals.			
7. Includes spell-check and the ability to change fonts, bold, underline, etc.			
8. Is simple enough for novice users of computers.			
The Company	**Company 1**	**Company 2**	**Company 3**
1. Assists in developing an implementation plan.			
2. Assists in finding ways for teachers to find time to work together.			
3. Is well experienced with providing professional development around the five required components.			
4. Provides this number of days/hours of training: ____ about the software (including practice) ____ on the theory, benefits, and processes of mapping ____ on unpacking the standards (including practice) ____ on reviewing of other's maps (including practice)			
5. Costs: a. License per user b. Professional development c. Other			

Tool 12: Mapping and Aligning Tasks – The First Six Months

Use Table 6 to create a timeline for the first six months. Indicate when each task will be completed and who will take the lead.

Table 6. Mapping and Aligning Tasks: The First Six Months

Tasks Planned and Completed	Lead Person(s)	Beginning Date	Completion Date
1. Attended mapping workshops with leadership and school teams.			
2. Gained information about mapping through book studies, courses, videos, and other sources.			
3. Interviewed and hired a mapping consultant.			
4. Experimented with and purchased a software program.			
5. Created an organizational structure with school teams having representatives from all grade levels and content areas.			
6. Provided job descriptions for teams and developed an efficient communication system among the district, school, and classrooms for implementing mapping.			
7. Provided ongoing, in-depth training for leadership and school teams.			
8. Integrated the mapping process into the district improvement plan.			
9. Included and informed stakeholders of the mapping initiative: teachers; school and district administrators; school board; parents; union; and professional organizations.			
10. Completed and submitted the "Tasks: The First Six-Months" worksheet to district leadership team.			

Tool 13: Mapping and Aligning Tasks – The First Year

Use Table 7 to create a timeline of when the tasks will occur and who will take the lead.

Table 7. Mapping and Aligning Tasks: The First Year

Phase I: Tasks Planned and Completed	Lead Person(s)	Beginning Date	Completion Date
1. All teachers received multiple training sessions about the mapping process and using the mapping software.			
2. Ongoing training was differentiated and/or accommodations were made for teachers with limited experience with technology.			
3. Teachers reached common understandings of mapping vocabulary and practiced through multiple sessions in entering the five essential components on the maps.			
4. Teachers received ample and sufficient professional time to create maps.			
5. Leadership team members were available to address teachers' questions as they began to map.			
6. The process included ongoing ways to measure and improve the quality of the maps.			
7. The focus of the mapping process was the discussions held by teachers in unpacking the standards into subskills.			

Phase II: Tasks Planned and Completed	Lead Person(s)	Beginning Date	Completion Date
1. Grade-level and content-areas teams read and wrote multiple drafts of own maps and offered ways to improve them.			
2. Cross-grade-level and cross-content-areas groups reviewed maps and noted repetitions, gaps, and lack of increased cognitive difficulty.			
3. The large group reviewed findings from cross-grade-level and content-areas groups.			
4. The large group made immediate changes in maps if consensus could easily be reached.			
5. When consensus could not be reached, the large group researched and investigated further to gain new information that would allow for consensus.			
6. All teachers actively participated in grade-level and content-area team mapping sessions.			
7. Teams may have begun mapping only some components, but within a few months, they included all required components.			
8. Team maps included adequate level of detail and are honest representations of the taught curriculum.			
9. The following have been sent to district leadership team: a. Mapping and Aligning Tasks Phase I & Phase II worksheets. b. Access codes/information for all online maps.			