



Indiana Department of Education
SUPPORTING STUDENT SUCCESS
Division of Compensatory Education/Title I

Tools for Curriculum Development and Implementation

October 22, 2007



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**Great Lakes East
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This work was originally produced in whole or in part by the Great Lakes East Comprehensive Assistance Center with funds from the U.S. Department of Education under cooperative agreement number S283B050012. The content does not necessarily reflect the position or policy of the Department of Education, nor does mention or visual representation of trade names, commercial products, or organizations imply endorsement by the federal government.

Great Lakes East is one of the 16 regional comprehensive assistance centers funded by the U.S. Department of Education, and its work is administered by Learning Point Associates.

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Tools for Curriculum Development and Implementation

The Indiana Department of Education (IDOE), Division of Compensatory Education/Title I and the Great Lakes East Comprehensive Assistance Center have developed this set of materials to assist your school or school district in developing and implementing a high-quality curriculum.

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Tool 1: Definition – What Is a Curriculum?

While various definitions exist for the word *curriculum*, they are similar in that they all describe a teaching and learning situation—the content, the context, and the processes utilized to teach and learn specific skills and the system for measuring the acquisition of those skills.

Merging the various definitions of curriculum allows for a clear depiction of what a curriculum *is* and what it is *not*.

A Curriculum Is Not the Following:

- The state standards or indicators.
- A scope and sequence chart from a publisher or chapter headings from a textbook.
- Determined by a publisher, principal, or curriculum coordinator.
- A document that sits on a shelf and never changes.
- Based only on state standards.
- Written from the point of view of what the teacher will do.
- Focused on one classroom or one grade level.

A Curriculum Is the Following:

- The “unpacking” or restating of the state standards into a set of skills.
- A well-conceived hierarchy of skills developed by teachers and based on students’ cognitive, language, and social-emotional development.
- Determined by all teachers working in collaborative grade level and content area teams.
- A planning and teaching tool that effects instruction and routinely changes to correspond to the needs and strengths of the learners.
- Based on content, skills, assessments, resources, and other information that teachers find useful in their planning and teaching.
- Written from the point of view of what the student needs to know and be able to do.
- Aligned between and across grade levels and content areas with increasing cognitive difficulty.

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Tool 2: Key Components – What Should Be Included in a Curriculum?

The traditional curriculum of the 1960–1980s consisted of a series of books, workbooks, and practice sheets developed by textbook companies. Over time, the companies produced more colorful curriculum with scope and sequence charts, large teacher manuals, and manipulatives. In accordance with No Child Left Behind (NCLB) Act, textbook publishers have added descriptions of how their curriculum is aligned to state standards.

During the past 10 years, however, a curriculum movement has emerged that views teachers rather than textbook publishers as the creators of the curriculum. The movement includes teachers discussing, debating, and finding common ground regarding what students must know and be able to do based on the state standards, students' specific learning needs, and the learning context. This is the curriculum described in Tool 1.

This type of curriculum includes specific components that allow it to be rigorous yet flexible, aligned to the state standards, able to meet the needs of new and experienced teachers, and able to allow teachers to monitor student learning on a daily basis.

The five basic components of an effective curriculum are as follows:

- **Content** – The subject matter, events, and facts that students must know
- **Skills** – A description of what the learner must do in relationship to the content (stated using action verbs)
- **Assessment** – Description of the context for measuring student learning (includes classroom-based daily or weekly assessment not standardized tests)
- **Timeline** – Listing of the month or week the teaching will occur
- **State standard** – Corresponding state standard

Additional components are advantageous to curriculum implementation once the basic components are established:

- **Activities** – Description of student learning exercises
- **Resources** – Key materials to be used in teaching
- **Essential question** – An overarching question from the student's point of view that demonstrates value and purpose of learning for the student

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Tool 3: Research Regarding Curriculum– Will It Improve Student Achievement?

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

What is known about curriculum and its impact on student achievement? Both research and expert opinion espouse rigorous, standards-based, grade- and content-level-aligned curriculum as a key component of high-performing schools. An aligned and coherent curriculum often is listed in the literature as one of several variables used to create change in high-performing schools.

In a study of 50 Ohio districts, teachers and administrators 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).

The importance of the 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). The five finalists reported 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 often included higher expectations than the state standards.

In addition to the research, educational scholars write of the importance of the 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 state standards” as the first in a list of 10 principles to improve achievement.

References

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- Marzano, R. J. (2003). *What works in schools: Translating research into action*. Alexandria, VA: Association for Supervision and Curriculum Development.

Murphy, J. (2007). Restructuring through learning-focused leadership. In H. J. Walberg (Ed.), *Handbook on restructuring and substantial school improvement* (pp. 63–75). Lincoln, IL: Center on Innovation and Improvement.

Walberg, H. J. (2007). Changing and monitoring instruction. In H. J. Walberg (Ed.), *Handbook on restructuring and substantial school improvement* (pp. 77–90). Lincoln, IL: Center on Innovation and Improvement.

Zavadsky, H. (2006). How NLCB drives success in urban schools. *Educational Leadership*, 64(3), 69-73.

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Tool 4: Curriculum and No Child Left Behind – How Do They Connect?

How does curriculum connect to NCLB? Curriculum and professional development are listed as one of six actions that state departments of education are required to undertake with schools districts that are in corrective action—three or more years “in improvement” status. The NCLB requirement states the following:

“Institute and fully implement **a new curriculum** based on state and local content and academic achievement standards that includes **appropriate, scientifically research-based professional development** for all relevant staff.” (Office of Elementary and Secondary Education, 2006, p. 49, emphasis added).

Thus, although Indiana statutes and codes do not specifically address curriculum, the Indiana Department of Education (IDOE) has selected the development and implementation of a new curriculum as the action for districts in corrective action. Under NCLB, the IDOE is required to provide technical assistance regarding the selected action. The information included here, as well as in workshops and trainings regarding curriculum development and implementation, is provided by the Division of Compensatory Education/Title I of the IDOE.

Other states are focusing their efforts with schools and districts toward curriculum as well, according to the Center on Innovation and Improvement’s database of state-by-state district and school improvement efforts. In Illinois, for example, the regional educational service centers are to provide districts and schools with programs and processes in four areas, including standards-aligned curriculum, instruction, and classroom assessment. The Michigan School Improvement Framework, adopted in 2005, consists of a set of strands with corresponding standards. The first strand is “Teaching for Learning—Curriculum, Instruction, and Assessment.” Thus, Indiana is in line with other states, as well as with the research (Tool 3), in its emphasis on ensuring its schools and districts have current, standards-based, aligned curricula.

References

Center on Innovation and Improvement. (2006). *State database*. Retrieved August 24, 2007, from <http://www.centerii.org/centerIIPublic/criteria.aspx>

Office of Elementary and Secondary Education. (2006). *LEA and school improvement: Non-regulatory guidance*. Washington, DC: U.S. Department of Education. Retrieved October 3, 2007, from <http://www.ed.gov/policy/elsec/guid/schoolimprovementguid.pdf>

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Tool 5: Curriculum Self-Assessment Tool – How Does Our Curriculum Measure Up?

When a district is in corrective action, the Indiana Department of Education conducts a review of the district’s English/language arts and/or mathematics curricula. The review determines the inclusion and quality of five essential components for Grades 3, 8, and 10: content, skills, assessments, timelines, and state standards. The results determine one of the following required district actions: map and align the curriculum, conduct a curriculum audit, or institute the Surveys of Enacted Curriculum to measure the taught curriculum.

Indiana school districts are encouraged to conduct reviews of their curricula as well—regardless of their improvement status. Reviews are beneficial to ensure that the curriculum is appropriate for the current students, corresponds to the latest set of state standards, and is being taught by all teachers. The chart below serves as a tool to conduct a cursory review of the curriculum.

Our curriculum includes the following components: 1-poor or missing; 2-somewhat, fair; 3-of good quality	Grade 3			Grade 8			Grade 10		
	1	2	3	1	2	3	1	2	3
1. Content – the subject matter, the events, the facts that students must know	1	2	3	1	2	3	1	2	3
2. Skills – a description of what the learner must do in relationship to the content <ul style="list-style-type: none"> • Stated with a verb indicating the level of cognitive demand (e.g., Bloom’s taxonomy) that is required to complete the task (e.g., matches, explains, evaluates) • Cognitive demand increases within and across each grade level 	1	2	3	1	2	3	1	2	3
3. Assessment – description of the context for measuring student learning <ul style="list-style-type: none"> • Is not standardized tests • Occurs on a daily, weekly, or monthly basis • Includes a variety of measures (e.g., oral reports, presentations, demonstrations, and projects) • Used to plan future teaching based on students’ level of achievement of the skills 	1	2	3	1	2	3	1	2	3
4. Timeline – week, month, or other time period	1	2	3	1	2	3	1	2	3
5. State standard – corresponding state standard(s) for each skill <ul style="list-style-type: none"> • Standards are listed at the end of the column, demonstrating they are a reflection of the skills taught and are not the driving force underlying the curriculum. 	1	2	3	1	2	3	1	2	3

Our curriculum includes the following components: 1-poor or missing; 2-somewhat, fair; 3-of good quality	Grade 3			Grade 8			Grade 10		
Our curriculum includes additional components: 6. Activities 7. Essential questions. 8. Other _____	1	2	3	1	2	3	1	2	3
	1	2	3	1	2	3	1	2	3
9. Our curriculum consists of tables or charts (maps) with the five required components for each grade level, K–12.	Yes No			If no, list the incomplete grade levels.					

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Tool 6: Mapping and Aligning the Curriculum – What Is It? Where Should Teachers Start?

What is it? Curriculum mapping is the process of teachers discussing and “unwrapping” the meaning underlying the state standards in terms of specific student skills. It involves teachers having thought-provoking discussions about their students and how they best learn. Curriculum mapping involves teachers making public what they teach and arriving at decisions about what should be taught. It involves teachers individually writing down (usually electronically) what they plan to teach or have taught and sharing it with others. Through the sharing, “maps” or charts are developed that become the agreed upon curriculum.

Once drafts of the taught curriculum are developed, teachers determine how the skills listed relate to the state standards. Notations are made, and teachers quickly realize which standards are not taught, which ones are too often taught, and which ones are insufficient in increasing students’ thinking from one grade level to the next. This aligning of the curriculum to the standards ensures that—at least on paper—the students are taught all the state standards with increasingly greater cognitive demand.

Without such discussions and processes, the “what” of teaching is left to individual teachers. Students receive “hit and miss” instructions on topics and skills—repeatedly studying the same topics, never touching on other topics, and either being inadequately challenged or overly challenged in the next grade. Teachers must come together to discuss their expectations for their students and how each grade and each class will build from one to the other. This is the goal of mapping and aligning the curriculum.

Where should teachers start? Ten years ago, teachers mapped their teaching on large pieces of paper, drawing grids with columns for the months, the content, the skills, the assessments, and so on. The papers were posted in the halls or in the faculty lounges, and teachers spent professional development days comparing and contrasting their maps. Discussions, sometimes heated, were held, and decisions were made based on students’ needs, abilities, and interests, rather than on teachers’ favorite topics to teach. New maps were made—consensus or agreed-upon maps. Throughout the year, modifications were made and more maps were created.

Within the past five years, electronic maps have replaced those large pieces of paper. Curriculum mapping companies provide templates for a variety of types of maps and a system for sharing the maps online. The electronic mapping systems also contain search and report features that allow enhanced conversations and collaborations about the curriculum. While the mapping systems provide a way for teachers to produce a “product,” the focus is upon the “process” of mapping and aligning the curriculum through teachers’ collaborative discussions and decision making.

Where to Start – Steps in Mapping and Aligning the Curriculum

Step 1: Learn about the mapping and aligning process.

- Have a team attend a curriculum mapping introductory workshop. The Indiana Department of Education periodically provides such workshops at no charge to school districts.
- Hold a book study about curriculum mapping in your school or district. (See “Books for Book Study.”)
- Obtain names of and investigate the work of specific mapping consultants. Invite them to explain to you how they work with schools and districts.

Step 2: Learn about the electronic curriculum mapping companies.

- Research electronic mapping companies (see “Preferred Providers of Electronic Curriculum Mapping.”) The companies usually are represented at the Indiana Department of Education (IDOE) workshops.
- Complete Tool 7: Interviewing and Selecting an Electronic Mapping Company.

Step 3: Make wise choices in choosing an experienced mapping consultant and an electronic mapping company.

Step 4: Prepare your school or school district to implement the process.

- Attend a “training of trainers” workshop to learn about the district and school organizational structures needed to successfully map and align the curriculum.
- Establish the appropriate teams and groups within the school or district to implement the process.
- Complete Tool 8: Planning the Mapping Process.

Step 5: Map the Curriculum for Year 1.

- Begin the first year of mapping, with ample professional development time dedicated to teachers working alone and in groups (a) to learn how to write a projected or diary map; (b) to learn the process for collaboratively developing consensus maps; and (c) to conduct initial read-throughs and reviews of the created maps.
- Have the mapping consultant assist the trainers in implementing the mapping process.
- Ensure that teachers are creating quality maps that they will be able to compare and discuss in depth with one another.
- Complete all steps as indicated by the mapping consultant.
- Complete Tool 9: Beginning to Map and Tool 10: End of Year 1 Mapping.

Books for Book Study

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.

Preferred Providers of Electronic Curriculum Mapping*

Atlas Curriculum Management System

Website: www.rubicon.com/AtlasCurriculumMapping.html

Contact: John Moore, jmoore@rubicon.com

Phone: 1-800-971-4200

Curriculum Mapper

Website: www.curriculummapper.com

Contact: Marcia Cochran, marciac@clihome.com

Phone: 1-800-318-4555, ext. 132

TechPaths – A Curriculum Mapping System

Website: www.perfpathways.com

Contact: Paul Goldstein, pgoldstein@perfpathways.com

Phone: 866-457-1990, ext. 301

Additional Assistance

The companies listed provide various degrees of assistance in the mapping and aligning process. Most school districts will need to hire an additional outside consultant for assistance beyond that provided by the electronic mapping company.

*Other providers may be suggested to IDOE, who will then investigate their services and costs, and review prior examples of their work to determine their acceptance as preferred providers.

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Tool 7: Interviewing and Selecting an Electronic Mapping Company

The statements below are examples of information to obtain when interviewing the electronic mapping companies and deciding on which company to use. Use a comparative chart similar to the one provided below to track the information.

The company...	Company 1	Company 2	Company 3
1. Will assist us in developing an implementation plan and finding time for professional development.			
2. Will provide numerous days of professional development related to developing quality maps that include the five required components.			
3. Will provide at least one day of professional development regarding the software.			
4. Will utilize trainers and consultants who are current or former teachers and administrators.			
5. Will provide training for how to facilitate small group read-throughs of the maps and peer reviews.			
6. In its presentation focused on the process of mapping more than the technology of the electronic mapping.			
7. Provided a written description of its year-long steps in the process.			
8. Described a process of multiple steps focusing on the aligning of the maps (beyond the physical development of maps) through teacher team collaborative discussions.			
9. Provided contacts at schools at which they had worked; we contacted the schools to determine their satisfaction with the company's process and level of assistance.			
10. Includes a mapping system that allows for searches and creation of summaries and reports that we may need.			
11. Has software that appears user-friendly even for the novice computer user.			
12. What are the districtwide license costs?			
13. What are the professional development costs?			

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Tool 8: Planning the Mapping Process

Use this checklist to indicate when the steps will occur and have been completed. (The process does not need to begin in August.)

Steps Planned and Completed	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
1. Attended workshops with teams												
2. Gained information through reading												
3. Interviewed consultants												
4. Interviewed mapping companies												
5. Used checklist to select consultant and mapping company												
6. Created an organizational structure (e.g., coordinator, cabinet)												
7. Provided job descriptions for each of the above												
8. Provided several weeks of in-depth training for teams												
9. Created an implementation map (e.g., objectives, activities, timelines)												
10. Included and informed pertinent stakeholders												

Steps Planned and Completed	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
11. Integrated mapping process into district improvement plan												
12. Implemented a successful process for gaining “buy-in”												

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Tool 9: Beginning to Map

Use the checklist to indicate when the steps will occur and have been completed. (The process does not need to begin in August.)

Steps Planned and Completed	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
1. All teachers received training on the mapping process and using the electronic mapping tool.												
2. Training was differentiated and/or accommodations were made for teachers with limited experience with technology.												
3. Reached common understanding of mapping vocabulary and practiced using terms on the maps (e.g., content, skill, assessment).												
4. Teachers were provided with adequate time to enter the data on maps.												
5. Mapping leads or consultants were available to address teachers' questions as they began to map.												
6. The process included a way to measure and improve the quality of the maps.												

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Tool 10: End of Year 1 Mapping

Use this checklist to indicate when the steps will occur and have been completed. (The process does not need to begin in August. “Year 1” refers to a school year, about nine months).

Steps Planned and Completed	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
1. Read-throughs of maps in teams, discussing quality, areas of confusion, and rewrote maps as needed.												
2. Small group reviews to discuss repetitions and gaps in skills as related to state standards.												
3. Large group reviews with findings to be used in steps 4, 5, and 6.												
4. Large group makes immediate changes from a finding.												
5. Large group postpones decision making to investigate findings further.												
6. Large group receives investigation results; reaches consensus about changes.												
7. All teachers created individual maps (projected/diary) for one or two semesters.												
8. Teachers may have begun mapping only some components, but within a few months, they included all required components.												

Steps Planned and Completed	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
9. Individual maps included adequate level of detail and were honest representations of the taught curriculum.												
10. School/district organizational structures (e.g., cabinet) were used; members developed next year's plan for mapping and professional development.												
11. The following have been sent to Indiana Department of Education (IDOE) Title I evidence of our work from the beginning of the year to the end and access to all electronic maps.												

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Tool 11: Requirements of the Indiana Department of Education (IDOE) for Curriculum Mapping and Aligning for Districts in Corrective Action

1. If the district is not meeting adequate yearly progress (AYP) in English/language arts and mathematics, the district will first map and align the English/language arts curriculum.
2. The district will use an outside curriculum consultant in addition to that provided by the electronic mapping company or will use a curriculum consultant/coach provided by IDOE (as available).
 - a. The district will provide a copy of the resume to IDOE of the consultant they wish to hire, demonstrating the person's experience in leading mapping and aligning in other schools and districts. IDOE will determine whether the consultant has appropriate experience.
 - b. The consultant/trainer will provide numerous days of assistance to the district throughout the school year.
3. The district will use an electronic mapping company from the preferred vendor list. (If the district wishes to suggest an additional company, IDOE will investigate its services and costs, and review prior examples of its work to determine its acceptance as a preferred provider.)
4. The district will fully implement all stages of the process of the selected electronic mapping company.
5. The district will send a team to an introductory workshop on mapping and aligning the curriculum. The team will usually consist of the superintendent, principals, teachers, and curriculum directors.
6. The district will send a team to a training of trainers workshop for curriculum mapping and aligning. The team will consist of lead teachers, principals, and curriculum staff.
7. The district will demonstrate that significant and sufficient professional development time is dedicated to curriculum mapping. The process will require a minimum of two years to implement.
8. The district will require and monitor all K–12 English/language arts or mathematics teachers to ensure completion of individual (projected or diary) maps and consensus maps.
9. The district will make their electronic maps available to Title I of the Indiana Department of Education.

