

CHAPTER II

Implementation Rollout

There are a number of options for achieving full-scale implementation of your new curriculum. In this chapter we discuss the various ways in which districts have moved from early implementation to districtwide use of a new curriculum.

Some districts choose to implement a new curriculum program districtwide in order to effect coordinated, systemic change in the district. This strategy can serve as an opportunity to focus energies and coordinate resources across the district and the community, engaging the efforts of teachers, students, and parents to improve mathematics learning. It also allows the district to design a coherent plan for professional development and support that is centered on helping teachers throughout the district implement the standards-based curriculum.

[Our district] is shooting for large-scale buy-in, a long implementation process where teachers teach teachers and get a lot of support. (E.B., mathematics curriculum supervisor)

Choosing to adopt a new curriculum districtwide does not necessarily mean that you will implement it all at once. In fact, this “whole hog” approach is a rather uncommon strategy. Most districts plan to phase in their new curriculum—often over several years—building the community support and teacher expertise needed to carry the implementation forward.

When planning your implementation strategy, you should consider the following questions:

- **What are your goals for “full implementation”?** Think about what you want full implementation to look like in your district. Do you want every teacher and student districtwide to use the new program? Do you want to strive for partial implementation, i.e., a majority of teachers and students in the district use the new curriculum but some students and teachers remain with the current program? For some districts, having every teacher in every school using the new curriculum may be an unrealistic initial implementation goal, particularly at the high school level, where the pressures of high-stakes testing often mitigate against a single program for all students. Some districts choose to offer two or even three curricular options for high school students, especially during early implementation, when there is little information about how the new curriculum will affect student performance. Collecting data about students’ learning during the implementation process will help you answer questions like these and adapt your implementation plan as you go along.

- **Does your implementation strategy provide sufficient time and teacher support as you scale up the implementation?** Moving to full implementation is fundamentally an issue of scale, particularly for large districts with many teachers. As with any innovation, implementing a new curriculum on a large scale will probably turn out to be harder and take longer than you originally thought. This is especially true if a large number of teachers will need significant amounts of professional development and support to learn to use the new curriculum effectively. Since districts may not have the resources and structure to provide adequate support to every teacher at once, many districts choose to take a more gradual approach to implementation, working with smaller groups of teachers through a more extended implementation process.
- **What implementation strategy is best suited to the particular curriculum you have chosen?** The philosophy and design of the particular curriculum you have selected may influence your choice of strategy. Consult the publishers and developers of the program you have selected about implementation; they may have suggestions about particular strategies that have been effective when implementing their programs. For example, in a program that tightly develops a particular mathematical idea across the grades, certain ideas may be dependent on other ideas or skills that are developed in earlier grades or may themselves be prerequisites for work in later grades. The developers may strongly recommend a grade-by-grade implementation approach for this curriculum so that students will be appropriately prepared for each subsequent grade level.

These questions will help you identify major implementation goals and constraints. Keep them in mind as you consider the following rollout strategies.

Adoption by Certain Schools

One implementation strategy is to introduce a new curriculum in one or two schools and then extend the implementation to more schools over time. This strategy has the advantage of building both grassroots interest in the curriculum and a cadre of experienced teachers who can serve as resources to their colleagues in other schools.

Four or five schools decided to go ahead with the new program for kindergarten and grade 1. Some people were ready, and some didn't agree with the decision yet; teachers have a lot of autonomy in our town. A good number of teachers are used to being able to write their own materials. Our process gave them time to really get behind this adoption. Since we started with five schools, we always had some schools that acted as lead schools, where teachers from one of the other ten schools could go and observe. (M. T., K–8 mathematics coordinator)

The school-by-school adoption approach also allows for the development of a supportive culture for the implementation within each school. Much of the day-to-day work of teaching with the new materials is hammered out within the individual schools. This is where teachers can discuss their lessons, ask questions about the curriculum, and share implementation ideas with colleagues in the lunch room, after school, or during preparation periods. In addition, this strategy gives the district additional time to prepare teachers in schools that are slated for later phases of the adoption, providing the training and professional development they

need before taking on a standards-based program. One drawback of this approach is that new materials and teaching practices take a longer time to spread throughout the district.

If you decide to adopt a school-by-school strategy, recognize that you may need to find a way to maintain interest and commitment within each school across the district as you roll out the implementation. Since teachers often are more receptive to working with the new curriculum when an interest in the materials develops from inside the schools rather than coming from above, you should capitalize on the enthusiasm of teachers already using the curriculum to help move the implementation process forward.

Adoption by One Grade Level at a Time

Another implementation option is to phase in the new curriculum one grade level at a time. This method has the advantage of creating a core of teachers who can support other teachers who are new to the program. These teacher leaders can serve as mentors, providing practical and personal support for their colleagues. This strategy also enables the district to provide intensive training and professional development for teachers at each grade level. One district, for example, offered monthly training sessions for all teachers during the first three years of implementation. In addition, each school was assigned a mentor teacher who was on part-time (paid) leave from the classroom to support the implementation. One disadvantage of this grade-by-grade method is that the students who begin the program in the first year of implementation will always have teachers who are teaching with new materials for the first time.

The particular curriculum you have adopted may recommend a specific strategy for implementation. The grade-by-grade implementation, for example, is favored by programs in which the mathematics activities in one grade are dependent on specific activities that are part of the previous year's curriculum.

One district phased in a middle school curriculum by having all of the sixth grade teachers and a core group of seventh grade volunteers teach the program in the first year. The seventh grade volunteers were then in a position to take leadership roles with their colleagues the following year, when all seventh grade teachers began using the curriculum. In the second year the implementation model also broadened to include eighth grade volunteers. These eighth grade teachers gained experience with the curriculum that they could then share with their colleagues during the full eighth grade implementation in the third year.

YEAR 1	YEAR 2	YEAR 3
All 6th grade teachers, plus volunteers at grade 7.	Remaining 7th grade teachers, plus volunteers at grade 8.	Remaining 8th grade teachers.
Grade 6		
	Grade 7	
		Grade 8

The grade-by-grade strategy builds on teachers' experience and interest and encourages teachers at each grade level to work with their colleagues. However, if teachers do not have the appropriate support or if teacher leadership is weak at certain grade levels, the implementation may experience more difficulties or delays.

Adoption by a Cluster of Grade Levels

A variant of the grade-by-grade strategy is to introduce a new program at clusters of grade levels. This is particularly common in the elementary grades, where rolling out a new program grade by grade over six or seven grade levels would take several years. Thus, for example, a district may decide to phase in the new curriculum in all K–2 classes during the first year of implementation and to add grades 3–5 in the second. Implementation by clusters of grade levels enables a quicker implementation, but one that is still gradual enough to allow districts to provide professional development and support to a manageable number of teachers.

In addition to reducing the burden on initial professional development demands, this strategy can help accommodate potential overlaps or gaps in content across the grade levels. As the new curriculum may introduce mathematical skills and concepts in a slightly different order and at somewhat different grade levels than past programs (for example, focusing on addition of fractions with unlike denominators in sixth grade instead of fifth), it is somewhat easier to coordinate the content among grade levels if the curriculum is adopted within grade clusters. Teachers then can work together across grades to minimize discontinuity for students. With this method, implementation seems to be most challenging in the later grades of the grade-level cluster. For example, one district adopting in grades 3–5 concurrently had the hardest time at the fifth grade because students had to catch up with new material that they would have learned in fourth grade, had they started the program at the beginning and worked straight through. One way to address this issue is to consider using a “grade-by-grade/grade cluster” hybrid strategy. Begin implementation with a single grade in different grade clusters (e.g., start with kindergarten and with grade 3), and add subsequent grades in the following years (e.g., add grades 1 and 4 in the second year of implementation, and grades 2 and 5 in the third year). If you consider implementing within clusters of grades, look carefully grade by grade for possible gaps between the existing program and the new curriculum.

Adoption by Certain Classes or Certain Students

Districts may choose to introduce a curriculum slowly by adopting the mathematics program for certain classes or certain students at a particular grade level. This is most common at the upper grades where there is more pressure to track and accelerate certain students. One rationale for this approach is to provide

students and teachers with some choice of curricula. One district, for example, began a new high school curriculum in selected ninth grade classes, but some parents complained that the program did not allow enough flexibility of choice for those students who could move through it more quickly. As a result, the school developed an accelerated option for the course in the second year of implementation. Another district introduced a new program for students who were not succeeding in the existing program. Although these students learned a lot and began to make up some of their lost ground, the curriculum became identified as a remedial one and the district had a hard time convincing other parents that the program was appropriate for students at all achievement levels.

[The recently chosen standards-based program] isn't a schoolwide adoption and, given our system, probably nothing would be. We have the advanced placement track that looks like it'll remain the same, and then we have the basic, standard, and honors levels. Twenty-five percent of the students are taking [the new curriculum], and we'll probably cap it there. One-half of the teachers are trained to teach [the program], and our goal is to get 80 percent of the teachers trained. . . I wouldn't force any teacher to participate. All our teachers have volunteered, and no student was forced to take it. We'd already made [these implementation] mistakes [in the past]. (M.N., high school teacher leader)

Although some districts have found it best to offer standards-based classes as an alternative to their traditional mathematics curriculum, others have been able to move from using the new curriculum with certain groups of students to using it with virtually all of the students in the school. For example, one high school phased in a standards-based curriculum over a three-year period. They began in the first year with those ninth grade students who were performing in the bottom half of the class in mathematics. In the second year, the original group continued with the second year of the program, and students who had been unsuccessful in the traditional course the previous year were moved into the standards-based program, either repeating ninth grade mathematics with the standards-based program or joining their classmates in the second year of the new curriculum, depending on the extent and degree of the difficulties they had encountered. In the third year of implementation, all incoming ninth graders used the standards-based curriculum. A small group of entering ninth graders who were exceptional mathematics students were accelerated into the second year of the curriculum, taking their mathematics classes with tenth graders.

The parents don't see the math in the reform curricula, and we wondered whether it made sense to continue a traditional track and have [the new high school curriculum]. We decided not to because we worried that [the new curriculum] would become the low track. We don't know what's going to happen long-term. (J.F., K-12 mathematics supervisor)

Adoption by Certain Teachers

Sometimes a group of teachers within a school or district leads the implementation. Expanding this group over time is a way to involve more teachers in using the new curriculum.

This strategy may be coupled with a grade-by-grade approach, with certain teachers at one grade implementing in advance of the full year implementation by all teachers at that grade level. In fact, any gradual implementation approach starts with a group of teachers who lead the charge. Districts frequently draw on the experience and expertise of these teachers in furthering the districtwide

The math department arranged the schedule so [that] while I was teaching the other teachers [using the new curriculum] were not teaching, and vice versa. That way we could coteach if we wanted . . . In the beginning we were pretty bad at using manipulatives—the kids were wild and so were we. Geoboard rubber bands went everywhere. There was a lot we didn't know or weren't familiar with, so having the choice to coteach or sit in on a colleague's class made us all feel a lot better. (M.N., high school teacher leader)

implementation of the program. These lead teachers may play a mentoring or coaching role for other teachers, they may demonstrate activities in other teachers' classrooms, and they often are called on to design and lead professional development for their colleagues.

One reason that districts take this approach is that it allows them to limit the amount of teacher support and professional development required for any given year. For example, one district that used a multi-year implementation model was able to provide teachers using the new program with valuable intensive support in the form of common planning time and team teaching opportunities, because they only needed to help a portion of their teaching staff each year. It is difficult—in fact, in large districts it is impossible—to provide the necessary professional development for teachers all at once. It is wiser to phase in your implementation so that you can offer teachers the support they need to use the curriculum effectively than it is to aim for a rapid, full-scale implementation that fails to meet teachers' and students' needs.

Beginning Your Adoption with Replacement Units

Districts may also use a replacement unit strategy to introduce new curricula in their schools. Because many of the new standards-based materials are modular, it is possible for teachers to try out one or two self-contained units without having to sustain big changes in their practice for the entire year. This gives teachers an opportunity to learn more about a new curriculum's approach and philosophy and to assess how the materials help to promote student learning. In some cases, replacement units are used as a selection as well as an implementation strategy. In others, replacement units are a way to begin the implementation process. Teachers at each grade implement part of the program during the first year and add more units in successive years.

A replacement unit strategy has the advantage of slowing down the transition for teachers. They can take the time they need to become accustomed to the new content and pedagogical techniques, and the district is able to gear staff development to the replacement units as part of the implementation process. Frequently, districts will select replacement units with some organizing theme or idea to afford a common experience and foster discussion among teachers.

The approach in one district was to choose one number unit, one geometry unit, and one computation unit at each grade level. Since teachers in each grade level were using new units with related content, there were many opportunities for cross-grades discussion. Another district chose to focus on algorithms and algebraic thinking, coordinating their professional development around this theme. Yet another district chose a common set of units so that they could monitor teachers' progress through each

[During] the first and second year of the implementation, we did ask teachers to teach the units in the same order, for professional development purposes. We wanted teachers to be able to come together and talk about their experiences with the unit. (M.D., K–12 district mathematics supervisor)

unit. Using a bi-weekly progress report, the district was able to collect valuable data on pacing, support needs, and challenges for teachers.

One potential disadvantage of this method is that students may experience inconsistencies between the existing program and the new units, especially if the structure and pedagogy of the two are very different. Sometimes teachers report bringing some of the instructional strategies they are learning to use with the standards-based units back to their other program, thereby reducing potential discontinuity in students' classroom learning experiences.

Full Implementation in One Year

Occasionally, districts will attempt full implementation in a single year. This approach is very challenging to undertake. The district must simultaneously attend to the many aspects of the change process—teacher support and professional development, community support, and assessment—across the district and still make sure that their students are engaging in high quality work. Most districts find that it is easier, more effective, and more sensible to take a slower, more gradual approach.

If I could do that over, I'd insist that it all be done in one year, because we have teacher mobility as well as student mobility. Also, when the focus is on your content area you have to jump on it and use your chance. (V.M., supervisor of mathematics, science, and technology)

Nonetheless, some districts do take this approach. Some feel that a shorter formal implementation phase maintains the momentum of the selection process. In some cases, your process for implementing new materials may be influenced by a timeline other than your own. Perhaps your district has money to support professional development for the new curriculum for only one year, or your policy or union rules dictate a certain timeline. District leadership can be creative about working around such conditions. For example, some districts have bought new materials according to the district budget cycle, but then held off on full implementation until they could provide the essential professional development for their staff.

Summary

There are a number of different, yet effective, strategies for rolling out the implementation of a new curriculum. Virtually all of these methods involve a multi-year plan that takes two to four years, and sometimes as many as six. Keep in mind that the implementation of any new curriculum, but particularly a standards-based program, is a complex and time-consuming process. Because these standards-based programs will demand changes in both content and instructional approaches for most teachers, you must be prepared to take the implementation slowly. The process will require preparation, planning, monitoring, and adaptation.

Many districts that have successfully adopted new materials deliberately began their teachers' professional development before the teachers were expected to use the new curriculum. This preparation period allowed teachers to begin to

use the new materials with a sense of familiarity and an understanding of how to use them effectively. We encourage you to design your professional development plans accordingly.

Finally, we want to stress that there is no one correct implementation strategy. You must review the pros and cons of the various strategies presented here with an eye to your own circumstances, consult with others who have been involved with a recent implementation, and then craft an approach that will respond to the particulars of your situation. Make sure you consider your district's goals, your community, the size of your district, teachers' readiness, your available resources, and your timeline. By all means, consult with publishers and developers of the curriculum program (or programs) your district has selected. They may be able to recommend particular implementation models that are appropriate to their particular curriculum and direct you to people in other districts who can serve as resources. The NSF-funded implementation centers (listed in Appendices 1 and 2) also may have ideas about resources to help support your planning.