

# CHAPTER V

## ADOPTION

The IMD program funds the development of materials that meet high content and pedagogical standards. A common view is that potential adopters would use similar criteria in selecting the materials. Our interviews with adopters indicate that the picture is more complex, and adoption decisions are made in many ways, using a variety of criteria. Interviews were conducted with 15 adopters of supplementary products and 17 adopters of comprehensive products.

We found that the most successful adoptions were those that engendered teacher investment in the materials. In addition, although the criteria used can be seen as elements of a rational approach to adoption, in fact, adoption decisions were much more opportunistic—a teacher would see materials at a conference and become excited by their possibilities, without analyzing how they fit with other school and district priorities; or a marketer would claim that the materials fit the standards and a school or district would adopt them, absent an independent assessment. The adoption process is also vulnerable to political changes in the district.

Further, to foreshadow the following chapter on implementation, the process by which materials were adopted, along with the substantive criteria used, had an influence on implementation and use. Our findings concerning the variety of ways sites approached curriculum adoption, and the limitations of the assumption of rationality, provide additional reasons that there are gaps between the intentions of IMD products and their actual use.

Adoption is the point at which control passes from those with whom NSF had direct or indirect involvement to those whose actions are independent of NSF influence. Consequently, gaps increase, particularly for products that are best implemented in multiple grades through a planned process.

We found adoptions of specific materials clustering geographically. In part, the clusters were associated with pilot- or field-test sites, and in part, by the presence of other NSF programs, such as Statewide Systemic Initiative projects. In both cases, the original adopters served as models to later users. Perhaps increased attention to dissemination efforts that target well-respected individuals and districts will yield increased adoption (Rogers, 1962).

No single approach to adoption is universally related to satisfaction and appropriate implementation. However, our study indicates that processes and criteria used to identify and adopt curriculum influence the depth of teachers' investment in its success. In some cases, the degree to which an adoption committee represents key stakeholders (teachers, parents, district personnel) influenced the amount of acceptance from eventual users. In others, an individual teacher built support through successfully modeling use of the product. In still others, adopters' attention to specific criteria, including state and national content standards, state testing programs, and pedagogical strategies affected the way teachers respond to and accept new curricula.

The section begins with a discussion of the levels at which adoption decisions are made, district, school, or individual teacher. We then move to a discussion of the substantive criteria used for judging curricula. The interaction of the process used at whatever level and the criteria influence teachers' investment in the product.

### *Levels for Adoption*

The materials we studied were adopted at three different levels: district, school, or classroom. At district and school levels, committees were frequently involved in the decision to

adopt, although even in those arenas an individual was able to influence the decision.

Differences existed in the adoption processes for comprehensive and supplementary curricula. IMD-funded comprehensive curricula were adopted by district committees, school-level processes, and individual teachers. In our sample, fewer than half of the comprehensive curricula were adopted at the district level, and the remainder at the teacher or school levels. (School adoptions were often led by individual teachers, blurring the line between school and teacher adoptions.) About two-thirds of the supplementary curricula were adopted by individual teachers.

### *District-Level Adoption*

In general, district-level adoptions were led by the district curriculum specialist, but the details of the process took many forms. First, although most districts created teams responsible for adoption, the teams varied in their composition and scope. For example, the district that adopted Project 27 included one teacher from each of the district's elementary schools; and the district that adopted Project 19 had two teachers from each grade level, one principal from each school level, and the curriculum coordinator. In some cases district-level staff chose participants, and in others, schools nominated their representatives.

A second difference lay in the scope of the committee's assignment. For example, the committee that selected Project 17 simply looked at the list of state-approved materials and selected one that seemed "exciting" to the group. In contrast, a district that adopted Project 11 used a committee that: 1) developed criteria for selecting materials; 2) used the faculty from the content area to review the available materials and select a few that met the screens; 3) brought in all staff and got their input for the best curriculum to meet the curriculum framework; 4) sought parent input; 5) distributed and analyzed rating sheets from teachers, parents, and others; and 6) made a recommendation to the Board of Education.

Although district-level adoptions exemplified quite rational and thoughtful approaches, they are the most likely to be affected by political change, as indicated by two adopters:

"The committee process will be used again, but the adoption method may be changed. Currently, the state has its own standards, but districts are allowed to choose their own textbooks. The state is now working on an assessment students will need to pass if they are to graduate from high school. If this is done, districts will have to adopt curriculums which meet the state standards." (*Adopter Interview, Project 30*).

"The adoption process represented massive reform in the district...Next time there will be different parents, a different board, and different teachers...If these people oppose reform, the process could look very different." (*Adopter Interview, Project 19*).

In the group of products we examined, 44 percent of the comprehensive products and 8 percent of the supplementary products were adopted at the district level.

### *School-level Adoption*

School-level adoptions reflected a variety of strategies. Most often, an individual teacher, principal, or group of teachers took responsibility for locating a new product in order to better

serve the school's learning goals. Such a process occurred with Project 17, when a principal had been seeking an integrated learning experience for the students for a number of years and read about the opportunity to work with the project developer as a pilot site. In contrast, Project 5 was adopted at the school level, but:

“At each school, the adoption process has been different. . . The schools that have a unified mathematics department do much better, because there is a shared commitment to using the product. At those schools where the mathematics department is not unified, there can be problems.” (*Adopter Interview, Project 5*).

Of the products we studied, 32 percent of the comprehensive and 15 percent of the supplementary products were adopted at the school level.

### *Classroom-level Adoption*

Teachers frequently initiated adoption by bringing the materials into their classrooms. In these cases, teachers did not spend their personal funds to buy the materials, but rather they used school or district money by recommending the purchase. Initiating teachers heard about the materials either through conferences, their professional networks, or because they were involved in a pilot or field test. For example, Project 12 was adopted in a number of schools because the state professional association presented a workshop on it, and a teacher saw Project 29 at a national conference and was impressed by its hands-on nature and links to the community. In contrast, Project 20 was brought to a school by a teacher who had been in a field test at another location. In both cases, their work gained the respect of colleagues, who asked to use the materials. The diffusion process reflects the findings of earlier studies of dissemination (Rogers, 1962), which points to early adopters as models that stimulate interest in change.

Teacher-led adoptions comprise 24 percent of the comprehensive and 77 percent of the supplementary products.

### *Criteria Used in Adoption Decisions*

Whether the product was adopted at the district-, school-, or classroom-level, adopters applied multiple criteria in making their decisions. The importance of a particular criterion varied in the settings we visited, and we found no sites that used all the criteria in the decision making process. Each criterion is discussed in the following section.

#### *Fit with Standards and State Tests*

Standards were in the forefront of the conversation among committee members and in the minds of individual adopters.

The state standards were the primary consideration for one adopter. He has been a key player in the state's process of defining the content standards, and his criteria for selecting materials comes directly from working on state standards. (*Summarized from Adopter Interview, Project 12*).

The district had been working with experts and consultants to try to develop their own “problem-solving” curriculum materials that would meet national standards,

which the district had adopted several years ago. This was a very expensive process, and they realized they wouldn't be successful. They were pleased to discover the materials that met their needs. (*Summarized from Adopter Interview, Project 11*)

However, local concerns could supersede the standards; buy-in from the community, especially parents, was as important to local success as were the standards; and some teachers were capable of sabotaging the implementation process by raising local "scare" issues:

"Much of the controversy came from the parents of children who were in classrooms where the teachers were not implementing the curriculum well, and students were frustrated. This stemmed from several issues. In some cases, the teachers sabotaged the new curriculum because they were not comfortable with it. 'I don't like the curriculum, but I have to use it.' Other teachers did not understand the curriculum enough to defend it to parents and students....Some teachers tried to teach it like a textbook, and this didn't work." (*Adopter Interview, Project 11*).

According to the co-PI, the biggest single lesson he learned had to do with the level of public and community education that absolutely has to take place when introducing curricula like [the product]. They didn't do nearly enough to help lay a receptive foundation in the school community for change. Because it looks and is so radically different from what parents were used to, they experienced much more backlash...than they had anticipated. (*Summarized from Developer Interview, Project 5*).

"When thinking about reform, you need to look far more broadly than just the teachers and the school district. Parents and communities need to be educated and informed about the need for modifications in the curriculum." (*Developer Interview, Project 23*).

Tests were sometimes mentioned along with standards by adopters. In the best cases, the adopters understood how the product helped prepare students for statewide testing. In contrast, difficulties arose when standards and tests were not aligned or when the state test changed after decisions were made.

Originally, the teachers believed that the materials would prepare their students for the state assessment. However, the assessment changed, and there is some concern. Nonetheless, the materials seem to stimulate students so they intend to continue with them. (*Summarized from Adopter Interview, Project 27*).

By the year 2001, science competencies will appear on the state test, and students must pass this test in order to graduate from high school. The staff believe that the product will prepare their students adequately for the test. (*Summarized from Adopter Interview, Project 12*).

### *Quality of Teacher Guides and Other Support Materials*

When potential adopters, especially those without strong content background, reviewed materials, they often looked at how much the teacher guidebook or other supporting materials could help them use the product. Guides were more important when there was limited professional development opportunity. As noted in the reviews of the content experts, overall, products were weak in either providing the necessary guidance to teachers or indicating the extent of professional development required.

The committee picked materials that teachers could use....These materials included teacher videos that demonstrated in a short period how the modules could be taught. *(Summarized from Adopter Interview, Project 27).*

### *Availability of Professional Development*

Adopters looked at the extent to which professional development was available and judged whether it was adequate to the demands of the materials. They also looked at the expense of training, how much was provided by the publisher or developer, and whether there were ongoing opportunities to receive assistance. To some extent, the widespread adoption by field-test sites was related to the availability of professional development, because participants in field tests frequently received free inservice training.

The teachers participated in the pilot [sic]...three of four of the teachers using the materials attended a workshop provided by the publisher and developer. This training was three weeks long, and although “there’s always more to learning about using materials,” the lead adopter thought this was enough to familiarize teachers. *(Summarized from Adopter Interview, Project 12).*

The August before they began implementing the materials, the principal, the team of teachers who would be implementing them, and several other teachers spent a week in training at the developer’s institution...Since they were a pilot site [sic], they subsequently had a great deal of contact with the developers, including on-site visits. The first year, there were monthly visits, during which the developers would observe, troubleshoot, answer questions, and generally just provide teaches with support. *(Summarized from Adopter Interview, Project 17).*

The original developer conducts eight training sessions each year, sponsored by major corporations, and pays teachers for their participation in the training. *(Summarized from Adopter Interview, Project 2).*

### *Pedagogy*

At times, adopters sought explicit pedagogical strategies in materials. Adopters mentioned student-centered pedagogy and active learning for students as desired methods.

They chose [the product] because it fits with their philosophy of good pedagogy and content. Their philosophy is that students should be given a chance to get “their hands on the work and make their own discoveries.” *(Summarized from Adopter Interview, Project 12).*

“It is very inductive, very abstract-random. This suits my teaching style. I like to bring in everything and really mix things up. Teachers and students who are creative, non-linear (abstract-random) really thrive on the curriculum. The other half don’t do well at all with it.” (*Adopter Interview, Project 5*).

### *Student/Teacher Engagement and Interest*

In general, adopters looked for materials they believed would engage students, particularly at the middle and high school levels. The concern that materials capture students’ involvement was related to a focus on hands-on, inquiry-based pedagogy, because adopters tended to view such pedagogy as enhancing student interest.

Teachers gave answers that were variations on a theme: namely, that students enjoy something different and benefit from a fun, visual approach to mathematical concepts. One adopter said, “It is fun. It has the same content as other materials but is not as serious. You can look at math from a different viewpoint.” (*Summarized from Adopter Interviews, Project 29*).

There were no well-defined criteria used in the adoption process. However, they were looking for materials that would promote students’ retention of content, be hands-on to eliminate boredom...(*Summarized from Adopter Interview, Project 1*).

### *Cost*

Particularly in districts and schools in which there were budgetary constraints, adopters made judgments about materials based on financial considerations. For example, one district moved to a second choice science program because it could put together its own kits rather than purchase expensive, pre-packaged kits. Frequently, field-test sites received free professional development, which served to attract adopters to those products. Further, teachers who were experienced with products served as trainers for others, and received free materials in return. The free goods and services stimulated wider adoption within schools and districts beyond the field-test teachers.

“Price and flexibility are very important when deciding on materials. You don’t want to spend a lot of money on something that may not work.” (*Adopter Interview, Project 30*).

She convinced the developer to donate 300 copies of the student textbook to the science program at her school [as part of her work in field testing]. (*Summarized from Adopter Interview, Project 18*).

### *Student Outcomes*

Adopters rarely raised questions about or looked at student outcomes in deciding on materials to adopt. One example, described in the case study that concludes this chapter, exemplifies the type of rational adoption process that included a focus on student learning. In fact, only the example we cite and one other setting used information about student learning in choosing materials.

### *Adoption of Non-IMD-funded Materials*

Perhaps because the non-IMD-funded materials we compared with the IMD materials were comprehensive and drawn from state adoption lists, we found that most sites visited used district adoption committees. Further, adopters tended to refer to state standards in their discussion of the reasons for the choice. And, while the list of criteria used for IMD and non-IMD products are similar, we found some interesting contrasts in the discussions of why materials were selected.

Users of IMD-supported products tended to be more concerned about finding challenging, engaging materials than did non-IMD users. The following quotations illustrate the lack of reform orientation in selecting non-IMD-funded products.

“What is important in adopting new materials is that they be similar to what teachers were using previously.” (*Adopter Interview, non-IMD*)

“The materials were selected because it was a middle of the road curriculum—not too integrated. The actual integrated math was too extreme and teachers were not comfortable with it. We piloted the integrated math curriculum for two years and had to get rid of it because we did not have math major teachers to teach it. The teachers wanted the worksheets for the students to practice the skills and so we changed to the current curriculum.” (*Adopter Interview, non-IMD*).

In short, adopters of non-IMD materials sought better materials than they had, but their interest was in incremental changes that would not place great demands on teachers.

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## *An “Ideal” Adoption: A Case Study*

### *The Product*

The product is a K-6 standards-based mathematics curriculum, which was already available when the standards movement took hold in the nation.

The product was developed by a broad-based team housed at a university. Team members each had a background in mathematics, but there were also specialists with mathematics writing backgrounds and teachers with extensive classroom experience. The major developer was a nationally prominent mathematician. Two “teachers in residence” were the liaison between teachers and the writing team and wrote and edited tasks for the units. Curriculum writing involved an extensive cycle of field testing and revision.

In order to promote the product, and to a lesser extent some other products, the university helped to form a corporation, which publishes and disseminates the program. Marketing focuses on district-level personnel who are avid for change. The publisher provides support to districts and teachers through its professional development group, which sponsors user conferences, train-the-trainer conferences, and conferences for those teachers who become mentor teachers for the program at a fairly low cost. For K-6 adoptions, the publishers provide a set of implementation plans and train mentor teachers.

### *The District*

The district is an urban school district with a student population composed of 50 percent Caucasian, 5 percent Hispanic, and 45 percent African American students. In one elementary school that showed high mathematics scores, the enrollment is 85 percent African American. The superintendent is African American, as is the mathematics coordinator, who was the driving force behind the adoption of a new math curriculum for the elementary grades.

### *The Adoption Process*

The product was adopted by a district-level adoption committee. Thirty-five people—teachers, parents, and principals—served on the committee. The process was driven by the efforts of an energetic mathematics coordinator, who ensured attention to implementation and student outcomes.

The coordinator has a motto about curriculum, “design down and deliver up.” His approach is to figure out what students need to exit the system and then find ways to help the students master those skills. Working with three teachers, he led a study of exit competencies required to turn out “quality workers and producers” at the end of the 12<sup>th</sup> grade. Since the state test is administered at grades 4, 7, and 11, the exit competencies were focused on developing benchmarks for grades 3, 6, and 8.

Once the benchmarks were in place, the coordinator introduced a complex multi-step process for selecting the elementary mathematics curriculum. Seven series were introduced and piloted—the product was the only NSF-funded curriculum. Each of seven schools piloted one product, with two classrooms at each level using the new book and the others serving as a control.

To assess the effectiveness of each series, every week the coordinator sent out unit assessment objectives, taken from Bloom’s Taxonomy, asking “where are these in your book?”



Only the IMD product and one other series addressed the objectives. In addition, the coordinator kept track of students' performance. At the end of the year, when he plotted the gains made by students, he found that no other series approached the effectiveness of the IMD-funded product—it outdistanced all of them by 30 points. The coordinator termed the effects of the curriculum one of a “different way of doing business in mathematics, one of active learning and using strategies.” He was committed to adopting the curriculum, although he realized it would require a lot of staff development.

At the end of the pilot year, the vote for adoption was 32 to 3. Those who voted against it believed it would be too much work for teachers. Particular issues raised were that the series entailed too much content, required too much set-up time, and had too many booklets for students to keep track of. Also, principals were concerned about how to monitor the teachers in the implementation process and how to present materials to parents. According to the coordinator, principals were accustomed to “monitoring by watching students do worksheets,” so he designed a principal manual for monitoring implementation through classroom observation.

To address the issues raised by teachers, the coordinator committed the district to serve as the centralized distribution center for classroom and parent-focused materials. When teachers said the teachers' guide was “too hard” he called the developers and requested correlations for each unit with the national standards and state assessments. Then he was able to tell teachers which units had to be “mastered” and which could be “introduced.” He also demonstrated model lessons to help teachers see “how it looks in action.”

The product was introduced simultaneously into all the K-6 classrooms—18 elementary schools—three years ago. When asked why he chose to implement the whole curriculum at once, rather than phasing it in, as the developers usually advise, he said:

“We had to do something right away. These kids were not getting what they needed. I couldn't stand by and watch that, knowing there was a better curriculum available. That would have been a crime. How could I withhold it from some and say, wait, I can't teach you good mathematics now; maybe three years from now. These children deserve all the breaks I can give them.”

Staff development for implementation was multi-step. The developer provided inservices locally, involving all K-6 teachers in a week-long institute to give materials and impart new strategies, and assessment tools, which the school district funded. Also, the coordinator was familiar with the research on change and sent that research to teachers. He also showed them that what they had been teaching was not what was being tested—for example, the emphasis is not now on computation, but rather abstract thinking.

There are signs that the product has been successful. Test scores show that district math scores are improving. Fourth grade state test results in mathematics for the elementary school that is 85 percent minority are:

1995: 46.0    1996: 76.9    1997: 64.1    1998: 85.4

The district average shows similar gains:

1995: 41.0    1996: 52.0    1997: 53.7    1998: 68.7

In addition to changes in math scores, teachers also see other signs that students are learning math. They see their students applying the strategies they learned in math to situations outside the math class. Teachers in the district commented that the product makes learning math fun for students and they believe that the use of manipulatives in the activities really aided in student learning.

In selecting a curriculum, the coordinator believes that a district should determine for itself what features are important and then design a pilot process that shows how different materials can meet the needs of their students. He says that “adoption is a very important process” and deserves a great deal of attention. He also believes it is a responsibility of the district to seek out the information it needs. In fact, an important component in making the decision to go with the product (in addition, of course, to its measured effects) was the excellent service he received. When he called with a question, he got an immediate response. “Service sold it,” he said.

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