

Reform by the Book: What Is—or Might Be—the Role of Curriculum Materials in Teacher Learning and Instructional Reform?

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Commercially published curriculum materials dominate teaching practice in the United States (Goodlad, 1984).¹ Unlike frameworks, objectives, assessments, and other mechanisms that seek to guide curriculum, instructional materials are concrete and daily. They are the stuff of lessons and units, of what teachers and students do. That centrality affords curricular materials a uniquely intimate connection to teaching.

Not only are curriculum materials well-positioned to influence individual teachers' work but, unlike many other innovations, textbooks are already "scaled up" and part of the routine of schools. They have "reach" in the system. At the local level, text adoptions are the primary routine in most districts for updating the curriculum every five to seven years (Carus, 1990). In our fragmented school system, textbooks are also one way that educators strive for a common curriculum across diverse settings. Despite their central role in the instructional system, however, curriculum materials have played an uneven role in practice.

Curriculum Materials as Agents of Instructional Improvement

The design and spread of curriculum material is one of the oldest strategies for attempting to influence classroom instruction. While many curricula have been designed for conventional teaching, reformers have often used instructional materials as a means to shape what students learn (Bruner, 1960; Dow, 1991). But critics argue that this strategy "de-skills" the professional work of teaching and severely limits local discretion over curriculum (Apple, 1990). Moreover, the strategy is often unsuccessful, for teachers and parents regularly reject curricular innovations (Dow, 1991; Sarason, 1982).

There are several reasons why curriculum materials have played an uneven role in practice. One is that curriculum developers and others often have failed to take account of the teacher (Sarason, 1982; Schwille et al., 1983). For example, although many innovative materials were developed in the late 1950s and early 1960s, classroom use was spotty because innovators tended to overlook teachers. They failed to appreciate teachers' need to learn in order to use new materials (Dow, 1991; Powell, Farrar, & Cohen, 1985; Sarason, 1982).

A second reason is that in the United States, at least, individual teachers shape the curriculum in fundamental

ways (Schwille et al., 1983). One root of this is that our system typically lacks strong curricular guidance. Consequently, teachers' understanding of the material, their beliefs about what is important, and their ideas about students and the teacher's role all strongly shape their practice. In addition to this, although curriculum designers aim to create particular kinds of learning experiences for students, they can anticipate only partially what particular children will bring to instruction and how easily they will learn. Teachers necessarily select from and adapt materials to suit their own students. This creates a gap between curriculum developers' intentions for students and what actually happens in lessons. Developers' designs thus turn out to be ingredients in—not determinants of—the actual curriculum.

A third reason is that educators often disparage textbooks, and many reform-oriented teachers repudiate them, announcing disdainfully that they do not use texts. This idealization of professional autonomy leads to the view that good teachers do not follow textbooks, but instead make their own curriculum. Advocates of this view, which is consistent with American individualism, acclaim teachers who create original materials and lessons. Textbooks, and the commercial and political considerations that shape their production, are viewed as a conservative influence (Ben-Peretz, 1990). Curriculum materials are seen to constrain and control both knowledge and teaching (Apple & Jungck, 1990; Ball & Feiman-Nemser, 1988), limiting students' opportunities to learn (Elliott, 1990). Teachers who invent lessons are said to be creative and imaginative. This hostility to texts, and the idealized image of the individual professional, have inhibited careful consideration of the constructive role that curriculum might play.

Relations of Textbooks, Teachers, and Teaching: A Closer Look

One further reason why curriculum materials have not been very influential, despite their unique potential, is that

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the relationship between textbooks and teachers has rarely been taken up with much care or imagination. Developers tend to assume that curriculum materials can operate nearly independently on students (Dow, 1991), while critics assert that textbooks only corrupt teachers' professionalism. Curriculum designers and teachers have little or no regular conversations with one another (Ben-Peretz, 1990), and few analysts seem to have carefully analyzed the role teachers play in creating curriculum.

The perspective that we adopt here is that curriculum materials could contribute to professional practice if they were created with closer attention to processes of *curriculum enactment*. Our perspective is premised on an understanding of the nature of teaching itself. While "curriculum" is often taken to refer strictly to the textbook or curriculum materials, the enacted curriculum is actually jointly constructed by teachers, students, and materials in particular contexts. Even close use of materials is a construction of curriculum, even if it seems to be only a partial reconstruction of received materials. Materials could be designed to place teachers in the center of curriculum construction and make teachers' learning central to efforts to improve education, without requiring heroic assumptions about each teacher's capacities as an original designer of curriculum.

As teachers enact curriculum in and with their classes, they work across five intersecting domains. First, teachers are influenced by what they think about their students, about what students bring to instruction, students' probable ideas about the content at hand, and about the trajectories of their learning that content. Second, teachers work with their own understanding of the material, which shapes their interpretations of what the central ideas are, how they hear, evaluate, and respond to students' ideas, and how they decide how to focus and frame the material for students. Third, teachers fashion the material for students, choose tasks or models, and navigate instructional resources such as textbooks in order to design instruction. Fourth is the intellectual and social environment of the class. Teachers must keep their eye on the group, and on the ways of knowing, interacting, and working that seem possible. This requires attention to patterns and norms of discourse, the nature of tasks, and the roles played by the teacher and students. Finally, teachers are influenced by their views of the broader community and policy contexts in which they work, and by the expressed ideas of parents, administrators, and professional organizations. They variously apprehend and interpret messages about goals for instruction and about good teaching, and their interpretations play a role in the way they shape the curriculum.

All curriculum enactment is entangled with work in each of these domains, though each may play a different part in different places and times. Improved curriculum design would take account of teachers' work in each of these domains.

How Might Curriculum Materials Contribute More?

Crossing Boundaries

Curriculum materials could only become central to teacher learning if the traditional boundaries between texts' presentation of content and teachers' teaching were redrawn to make central the work of enacting curriculum. Materials

would have to be designed to contribute more in each of the five domains above.

Knowledge of students is a case in point. Though much about students is particular to individuals, much is not. Teachers' guides could help teachers to learn how to listen to and interpret what students say, and to anticipate what learners may think about or do in response to instructional activities. To do so, teachers' guides could offer examples of a range of student work in the context of the material at hand, and comment on the meaning of the work, instead of simply stating lamely that "answers will vary." Such information would not provide definite prediction of specific student responses, but it would help teachers to be more prepared for some of the uncertainties of teaching.

Teachers' guides could also support teachers' learning of content. Having designed an instructional activity to represent the content in a particularly promising way, curriculum authors could discuss alternative representations of the ideas and connections among them. They also could probe and comment on specific subject-matter elements evident in students' ideas, questions, responses, and writing. Teachers' guides might thus include small forays into the content itself. If they did, teachers might be better oriented to the possibilities of the material, and better able to hear their students' ideas (see Ball, in press).

Curriculum materials could address the development of content and community across time. Although they are mapped by time—a day's lesson, a section, or a unit of several weeks—teachers' guides rarely help teachers to think about the temporal dimensions of curriculum construction. Teachers' guides could, for instance, contribute to teachers' thinking about content and activities appropriate in September as they begin to construct the classroom culture and environment. Teachers' guides could also help teachers to consider ways to relate units during the year.

Curriculum materials already focus on representation of the content for instruction. But while they often offer carefully designed lessons, models, and activities, teachers' guides rarely discuss the strengths and weaknesses of particular designs. The developers' pedagogical judgments thus remain hidden from teachers as they adapt, omit, or augment the materials. If materials included discussion of particular representations, teachers could more thoughtfully examine ways to present content and consider students' understanding in tandem, and learn about both.

When the gap between materials and teaching is very wide—leaving to each practitioner to figure out how to deal with students' thinking, how to probe the content at hand, and how to map instruction against the temporal rhythms of classroom life—teachers must invent or ignore a great deal. If they do try to invent and thus learn, they must often learn alone, with few resources to assist them. Curriculum guides could offer some help in depth while still being appropriately humble about the complexities they cannot address.

Improved Instruction

Curriculum materials are often part of an agenda for improved instruction, but the adoption of new materials is rarely seen as one component of a systemic approach to professional development. New adoptions in schools or districts are often accompanied by concern over the fidelity of implementation, which often leads to brief "training"

for teachers. Sometimes trainers are publishers' representatives who are more versed in sales and promotion than instruction. Even when the professional development that accompanies new texts is thoughtful, it is seen as an auxiliary support needed to ensure quality implementation, not as a site for professional development. The materials are seen as offering resources for teachers' work with their own students, and are not designed to entail or encourage teachers' investigations of and work with the material.

This artificial division of responsibility restricts the possibilities available, for curriculum materials could provide common material for teachers' joint work on instructional improvement. Teachers could be engaged with curriculum materials in ways that generated learning if the materials were integrated into a program of professional development aimed at improving their capacity to teach. In that case, well-designed materials could be a resource for teachers' learning. Although there is much talk of the need for professional development in support of curriculum use, practitioners and policy-makers have little more than assumptions about what the focus, extent, and nature of such professional development could be.

Partners in Practice

Accomplishing the things we sketched above would require ambitious new efforts, far beyond what curriculum developers typically do. For instance, including helpful material on students' thinking would require substantial inquiry into students' response to particular topics and tasks. Although there has been significant research on students' thinking in some areas of mathematics and science, there are vast unprobed areas in those subjects, and even more in social studies, language, and history.² In such areas, when teachers try to elicit and respond to students' ideas they must invent and learn a great deal with little assistance. By the same token, more research on teachers' knowledge and learning would be required to design curriculum as a resource for teachers' own understanding of the content.

To turn curriculum material into a site for teachers' learning would require a basic reconception of the designers' work. Rather than conceiving the curriculum as "something for students" and the teacher's guide as merely an instruction manual for teachers, both would have to be considered as terrain for teachers' learning. This would require learning how to design and develop written materials so as to be educative for teachers as well as students. We know far too little about how written materials might support teachers' learning, but it seems clear that devising such materials would require considerable imaginative design and inquiry. The changes that we propose imply substantial new costs for developers, publishers, and districts, as well as more work for teachers.

Hence we propose the creation of curricula that would help teachers to better enact curriculum in practice. If the boundaries of curriculum design and development were reconsidered and redrawn, curriculum materials could offer teachers more opportunities to learn in and from their work. Such learning would help teachers to be more rather than less informed, and to become more thoughtful professionals with more choices. The sort of curriculum guidance for teachers that we imagine could not make decisions about whether to slow down a class, but it could offer

concrete examples of what student work might look like, what reasoning might underlie students' work, and what other teachers have done in similar situations. A teacher's guide cannot judge whether a teacher should meet with an individual student or move on, but it can offer concrete illustrations of the nature of student understanding important at a given point, and how other teachers have reached this level. If curriculum design and development were done with the enacted curriculum in view, it would be easy to see opportunities to use curriculum materials to assist teachers' learning and practice.

Conclusion

We have proposed to redraw boundaries between teachers and materials in the construction of curriculum. We see no alternative if curriculum is to play a more constructive role in improving instruction, for the curriculum that counts is the curriculum that is enacted. If we want the intended curriculum best to contribute to the enacted one, we must find ways to design the first with the second clearly in view. That cannot be done without framing curriculum use and construction as activities that draw on teachers' understanding and students' thinking, and that depend on engaging ways to represent the material and develop the intellectual environment of a class. Better curriculum can only be designed if it is designed to help teachers operate more thoughtfully and effectively in each of these domains.

Notes

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¹In our definition of curriculum materials we include textbooks, teachers' guides, and other materials such as replacement units and instructional materials kits, and we use textbooks, teachers' guides, and curriculum materials interchangeably to refer to such material. We do not include materials designed for single lessons or activities not situated in a larger content context.

²Curriculum developers could include more of what they learn about students' thinking in the course of pilot studies, rather than simply integrating it into revisions.

References

- Apple, M. W. (1990). Is there a curriculum voice to reclaim? *Phi Delta Kappan*, 71(7), 526-531.
- Apple, M. & Jungck, S. (1990). "You don't have to be a teacher to teach this unit" teaching, technology, and gender in the classroom. *American Educational Research Journal*, 27(2), 227-251.
- Ball, D. L. (in press). What are students learning? Facing challenges of context, distance, and desire in trying to hear students. In B. Biddle, T. Good, & I. Goodson (Eds.), *International handbook on teachers and teaching*. Dordrecht, Netherlands: Kluwer Press.
- Ball, D. L., & Feiman-Nemser, S. (1988). Using textbooks and teachers' guides: A dilemma for beginning teachers and teacher educators. *Curriculum Inquiry*, 18, 401-423.

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So, for want of funding, the research needed to plan and evaluate most programs for educational reform is not conducted, and when relevant research actually appears, the evidence it generates often remains unknown to decision-makers in education. This is absurd.

Education is not fundamentally different from other fields of human endeavor. It is perfectly possible to conduct research that bears on major decisions we need to make concerning the organization, staffing, curricula, and teaching methods appropriate for America's schools. When that research is conducted [and reviewed, and disseminated,] it can produce knowledge that helps us avoid serious and costly errors. But good research does not come cheap. It requires competent and highly-trained workers. It also requires forethought and planning, and it always takes more time than decision makers would like. But if America is to avoid the wasted dollars and disrupted lives that poor policy decisions in education generate, we must step up our regular investment in educational research [and its dissemination]. Certainly, failure to fund educational research is a case of "penny wise, pound foolish." (Berliner & Biddle, 1995, p. 347)

Unfortunately, educational researchers are often unwilling to speak out on the pressing need to fund, review, and disseminate the knowledge that educational research can generate. When massive, politically inspired cuts were imposed on the research budget of the National Institute of Education in the 1970s, the AERA stood largely mute. And in recent years, when federal funding for field-initiated studies in OERI has averaged less than a pitiful million dollars per year, the educational research community has largely held its fire. (This passive behavior contrasts sharply with the aggressive ways in which other scholars such as physicists, astronomers, biologists, health professionals, or psychologists lobby for their research fields.) But whether inspired by modesty, failure of will, or the desire to avoid political controversy, such responses from educational researchers are unwise. Our schools, our students, indeed our country as a whole, would benefit greatly if a lot more good research on education was funded and its findings were disseminated, and researchers should take the lead in making the case for this increase.

References

- Anderson, D. S. & Biddle, B. J. (Eds.). (1991). *Knowledge for policy: Improving education through research*. London: Falmer.
- Berliner, D. C. & Biddle, B. J. (1995). *The manufactured crisis: Myths, fraud, and attack on America's public schools*. New York: Addison-Wesley-Longman.
- Cuban, L. (1990). Reforming again, again, and again. *Educational Researcher*, 19(1), 3-13.
- Elmore, R. F. & McLaughlin, M. W. (1988). *Steady work: Policy, practice, and the reform of American education*. Santa Monica, CA: The RAND Corporation.
- Ferguson, R. F. (1991). Paying for public education: New evidence on how and why money matters. *Harvard Journal on Legislation*, 28, 465-498.
- Hallinan, M. T. (1996). Bridging the gap between research and practice. *Sociology of Education*, 69 [Extra issue], 131-134.
- Knott, J. & Wildavsky, A. (1981). If dissemination is the solution, what is the problem? In R. F. Rich (Ed.), *The knowledge cycle* (pp. 99-136). Beverly Hills, CA: Sage.
- Polls confirm political role for education. (1996, June 19). *Education Week*, 15(39), 1, 30-31.
- Shavelson, R. J. & Berliner, D. C. (1988). Erosion of the education

research infrastructure: A reply to Finn. *Educational Researcher*, 17(1), 9-12.

Travers, R. M. W. (1983). *How research has changed American schools: A history from 1840 to the present*. Kalamazoo, MI: Mythos Press.

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strategy he helped develop when he still worked in the academy. What lessons can we learn from such influential colleagues? Why are some of us influential while others are not? Are there any trade-offs required or costs incurred in packaging ideas in a manner which will "play" in political arenas?

*Question 4: What can members of the policy community teach us? Those of us who want to teach policy-makers a thing or two quite possibly should remember that good teachers are good learners first. Researchers who study science education, for instance, remind us that before teachers can correct students' misconceptions about the physical world, they must first understand what those misconceptions are. Furthermore, those of us who have taught students from cultures different from our own have learned that it is not only the students' misconceptions which sometimes require correcting. It seems reasonable to use the pages of the *Educational Researcher* to educate researchers about a culture and cultural ways of thinking which are, at times, quite different from their own. This journal invites papers which attempt to do this, as well as papers which address the other questions outlined above.*

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- Ben-Peretz, M. (1990). *The teacher-curriculum encounter: Freeing teachers from the tyranny of texts*. Albany: SUNY Press.
- Bruner, J. (1960). *The process of education*. Cambridge, MA: Harvard University Press.
- Carus, M. B. (1990). The small publisher in a national market. In D. Elliott & A. Woodward (Eds.), *Textbooks and schooling in the United States: Part I. Eighty-ninth yearbook of the National Society for the Study of Education* (Vol. 1). Chicago: University of Chicago Press.
- Dow, P. (1991). *Schoolhouse politics*. Cambridge, MA: Harvard University Press.
- Elliott, D. (1990). Textbooks and the curriculum in the postwar era, 1950-1980. In D. Elliott & A. Woodward (Eds.), *Textbooks and schooling in the United States: Part I. Eighty-ninth yearbook of the National Society for the Study of Education* (Vol. 1). Chicago: University of Chicago Press.
- Goodlad, J. (1984). *A place called school. Prospects for the future*. New York: McGraw-Hill.
- Powell, A., Farrar, E., & Cohen, D. K. (1985). *Shopping mall high school*. Boston: Allyn & Bacon.
- Sarason, S. (1982). *The culture of the school and the problem of change*. Boston: Allyn & Bacon.
- Schwille, J., Porter, A., Floden, R., Freeman, D., Knapp, L., Kuhs, T., & Schmidt, W. (1983). Teachers as policy brokers in the content of elementary school mathematics. In L. Shulman and G. Sykes (Eds.), *Handbook of teaching and policy* (pp. 370-391). New York: Longman.

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