



Making Curriculum Development Work Again

Development teams in Hawaii are using local emphasis, teacher training, and field support to create successful new curriculums.

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The unfortunate verdict is now conclusive: the national curriculum development projects of the '60s and '70s have largely failed (Weiss, 1978; Stake and Easley, 1978; Berman and McLaughlin, 1978; DeRose and others, 1978). Although some important benefits have been realized and a few of the projects have proved successful, the millions of dollars invested in curriculum development and the production of new materials for the classroom have not brought major changes in what students learn or how teachers teach.

One sad legacy of this failure is the doubt cast on the curriculum development process as a potential vehicle for changing schools. The specialized staff, pulling together experts

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from the content areas and the field of education to collaborate in the research, writing, testing, and revising of new materials is rarely found these days. Educators, private foundations, and government agencies question the validity of curriculum development as an effective, efficient way of introducing new ideas into schools.

National projects—aimed at changing curriculum from Maine to Alaska, funded for only a specific period of time, and staffed by people who rarely see the inside of a classroom—are likely to waste time and money. However, curriculum development does not have to be conducted in this way; programs that are more sharply focused can produce long-lasting change in the classroom.

Since 1966, the University of Hawaii, through its Curriculum Research and Development Group (CRDG), has been increasingly involved in curriculum development. CRDG has been engaged in 15 major projects and a number of lesser ones. All are used in the schools, and many are the most widely used in their specific subject areas (Hinze and others, 1977a).

Why the discrepancy between the

success of the Hawaii projects and the national curriculum development projects? What has made the Hawaii experience successful? A comparison between the national projects and the Hawaii projects reveals four main differences in development and implementation strategies: (1) a combination of writing and teaching roles, (2) a local/regional emphasis, (3) extensive teacher training, and (4) continuous field support and revision.

Writing and Teaching

The development of new curriculum materials can be viewed as a search for understanding—understanding what is important to teach, what teachers what to teach, what kinds of activities are practical in terms of classroom management, and what interests, stimulates, and educates students. These understandings can come from reading pertinent research in the content areas and instructional theory. Such research is useful in answering the question, "What is important to teach?" However, for designing and sequencing learning activities, the research on instructional theory is insufficient. We agree with Shaver's (1979) observation:

... the greatest benefits from the research literature will be heuristic in nature. Research reports may stimulate thinking about instruction and curricular alternatives, but choices among them or developments based on them ought to be tempered by the teacher or curriculum developer's own experience-based judgments, as well as by the careful consideration of values and alternative empirical assumptions.

Thus, curriculum developers need to move beyond the research base to understandings built on actual teaching experiences. The simple fact is that, of the hundreds and even thousands of decisions that are involved in developing new curriculum materials, only a small fraction can be based on information drawn from the research literature. Most decisions are based on the experiences of members of the development team. In order to ensure that these experiences are both recent and linked directly with the materials under development, CRDG combines the writing and teaching roles. Nearly everyone who writes materials also teaches the materials in the classroom. All courses are first piloted at the University Laboratory School, a K-12 program that is administered by CRDG, and draws stu-

dents from the broad spectrum of Hawaii's diverse population. In addition, most developers are also part of evaluation groups that observe other teachers using the materials.

The result is development teams who have a wealth of relevant, immediate experiences to draw on as they shape and reshape their materials. These teams have grown professionally over the last 15 years; some have been working together ten years or more—quite a contrast to the national curriculum project model of summer writing conferences. Thus, research-based development, the model of most national projects in the '60s and '70s, has been expanded by CRDG to a broader, more holistic experiential-based model.

Local/Regional Emphasis

While some of CRDG's projects are used outside Hawaii and are available for national distribution, our efforts are generally focused on the 206,000 pupils in the public and private schools of the 50th state. This relatively small, concentrated target area means we can design curriculums to take advantage of the local environment and to pinpoint our diffusion and implementation efforts in a small geographical area. This regional focus is a prerequisite for much of what follows in our implementation model; in fact, much of what has made CRDG successful can be traced to our organization as a regional center and not a coast-to-coast enterprise.

In many respects, Hawaii's physical and cultural environments are unique. Mainland texts with their pictures and stories of huge urban areas, snowshoe rabbits, and autumn leaves fail to represent Hawaii's complex ecosystem, ethnic diversity, or the realities of living in the middle of the world's largest ocean. Thus, there is an important need to develop materials that speak to the experiences of Hawaii's students and teachers. All of our materials, including the highly successful music and English projects, the elementary and secondary science programs, environmental and energy education materials, and Japanese language programs draw heavily on Hawaii's own environment to illustrate basic principles and general concepts.

This combination of general knowledge richly mixed with local examples has been successful for the same rea-

son that people do not listen to just the local news or read only national news magazines. We watch the national news and subscribe to the local paper because we need to see how the general and the specific interact. Understanding the general enables us to put the local in its proper perspective, to compare and contrast our own immediate experience with that of others. Understanding the local means we can bring fresh, relevant insights to broader, more abstract ideas. Typically, teachers are left to make these connections alone, without the benefit of materials specifically designed for that purpose. In our materials, these connections are integral parts of the programs.

We have also attempted to extend this notion to the materials we disseminate nationally. We have retained the basic design of the materials, including those activities representing general ideas and principles, but replaced the specific Hawaii examples with case studies and other descriptive information from each new area where the program is implemented. For example, our high school environmental education course, *Coastal Problems and Resource Management* (Mitchell and others, 1979), contains a lesson on the general problem of natural hazards and their impact upon coastal environments. We follow this with a specific case study on the city of Hilo, Hawaii, and its experience with two devastating tsunamis. However, in North Carolina and South Carolina, the tsunami lesson has been replaced by a new case study on erosion. This enables students in these two Atlantic coast states to gain the same basic principles that students elsewhere are learning, but to apply their understanding of these ideas to a specific example drawn from their own experiences, literally from their own rapidly-disappearing backyard.

Our regional focus provides two other benefits. The first concerns the importance of understanding the local power structure of schools and departments of education as it relates to the diffusion and implementation of new curriculum materials. Any curriculum developer realizes that without a successful "sales" strategy new materials are likely to languish on the bookshelf. Knowing and gaining the support of innovative teachers, key curriculum people, and influential specialists at the district and state

levels is crucial to successfully implementing new materials. CRDG's regional emphasis provides a tremendous advantage in terms of identifying and working with key people. Most of the project directors and writers at CRDG know who these educators are and the appropriate channels for getting new materials piloted and adopted. This not only helps our materials receive more widespread use, but also reduces the time between the planning and development phase and actual classroom installation.

Second, the concentrated scale of the regional development strategy allows the very educators who will be using the materials to become deeply involved in the writing, evaluation, and revision stages and helps increase their commitment to the program. Local or regional-based curriculum development frequently draws criticism for "reinventing the wheel." Duplication of effort in several centers across the country is seen as a major drawback. However, this argument clearly underestimates the importance of "invention" and places too much emphasis on "wheels." We have found that teachers' involvement and commitment to curriculum change comes much more smoothly when they are meaningfully involved in the curriculum development process from the beginning.

Teacher Training

Much of the success of the Hawaii programs rests heavily on our model for implementation which includes teacher training and continuous field support and revision. Recent studies have confirmed what we have experienced in our implementation efforts: teachers are the key to what happens in the classroom (Stake and Easley, 1978; DeRose and others, 1978). Since CRDG's inception in 1966, teacher training has formed the core of the change process. In fact, materials in most projects are not available without accompanying teacher training. Training sessions are intensive, involving teachers in the actual activities of the particular program. Sequences are very carefully structured to ensure optimum teacher exposure and understanding of both the content and instructional strategies of the program. Particular attention is given by the trainer to grouping techniques, questioning strategies, evaluation of student progress, and

problems that may arise in the classroom such as reading or learning difficulties. The trainer serves as a model for the operation of the program in the classroom and can do so with considerable confidence since he or she has taught these materials for at least two semesters.

It is also desirable, if not essential, to involve the school administrator and curriculum specialist in the teacher training session. Without a thorough understanding of the program, such personnel can thwart either intentionally or inadvertently the best plan for implementation. Through the training session, administrators develop an understanding of the needs and objectives of the classroom teacher and are in a better position to support the program.

Field Support Services

Teacher training and involvement, however, do not ensure successful and long-term implementation. Since 1970 CRDG has maintained a full-time staff member responsible for interacting with teachers in using their programs. Originally, the function of this staff member was to provide feedback from teachers to developers on the functioning and effectiveness of the new program. Very quickly, however, the role changed to one of providing additional inservice support beyond teacher training. For many projects, field support services now include (1) coaching-on-site, (2) periodic teacher meetings, (3) communications via newsletters, (4) leadership training, and (5) professional development seminars.

Of these functions, providing feedback to teachers on their performance in the classroom is essential for the long-term maintenance of programs. Having had training in the content, activities, and instructional strategies of the program, teachers are prepared to implement it. It is at this critical early stage that they need to receive feedback to evaluate their personal successes and to improve instructional strategies. Where such support has been provided programs are still functioning optimally after ten years. In sites where it was not provided the dropout rate was very high in the early years of implementation and few teachers have continued on a long-term basis even though teacher training was provided.

During the on-site observations,

the field support staff identify topics for follow-up meetings. During the early stages of implementation these periodic meetings provide opportunities for teachers to discuss problems, share successful ideas and techniques, review upcoming new material, and generally build a supportive resource group.

Through the on-site observations and periodic meetings, feedback is provided to project staff on the effectiveness of the program. Teachers become an integral part of the revision process as they see their suggestions and ideas incorporated in improving the program. Field support staff are also responsible for gathering and communicating information about new program developments, most often through a project newsletter, to teachers and administrators involved in the implementation.

Local staff development continues through leadership training. Teachers who have demonstrated success and enthusiasm for the new program in their own teaching are selected for training as teacher trainers, thus enabling them to move from pilot teachers to leadership positions in localizing and institutionalizing the program.

Finally, continuous interaction of teachers in a seminar setting serves not only to help maintain a program, but stimulates teachers to develop further professionally and to actually conduct their own research in their classrooms. The initial excitement with a new program seems to wane after two or three years. By this time teachers have mastered the content and instructional strategies of the new program and are no longer challenged by it. They seek new intellectual challenges which often results in working with another program, regardless of how effective the "old" program might be. On the other hand, continuous involvement through a seminar series results in novel and creative approaches in personalizing the program.

Seminars differ for different programs and are generally offered for credit. Topics range from program-specific techniques and instructional strategies to the history and philosophy of the discipline. Teachers will continue to use and to grow professionally with a program as long as they are challenged by it and are learning from it (Pottenger, 1977).

One might question the costs of maintaining such a development, training, and field support model. Additional costs for training and field support must certainly be provided over and above the costs for instructional materials for the new implementation. However, the cost per student per year is surprisingly low when maintained over a 10-15 year period. Estimates range from \$2.71 to \$4.55 per student per year (Hinze and others, 1977b). This is indeed modest when compared to the costs of dropping programs and installing new ones on the three to five year cycle typically found in schools without training and field services. ■

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