

How Can We Know What Is Best?

Procedural Alternatives in Curriculum Development

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What procedures are essential to high quality curriculum development? What are the most efficient ways of carrying out these procedures?

some attention to these considerations by analyzing the similarities and differences among the procedures used and recommended by nine experienced, respected curriculum developers¹ and by examining some of the major contemporary obstacles to comparative studies.

Common Procedures and Characteristics

On the basis of available accounts of curriculum development procedures, it appears that most developers:

- Try, early in their work, to determine what types of new curricula are most needed or the extent of need for a new type of program under consideration.

¹ The nine developers' accounts appear in *Strategies for Curriculum Development*, edited by Jon Schaffarzick and David H. Hampson and published by McCutchan Publishing Corporation (Copyright 1975) in 1975. This essay is based upon the author's concluding chapter in that book and is printed by permission of the publisher. The views expressed here are the author's and do not necessarily represent those of his employer, the National Institute of Education (DHEW).

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WHEN curriculum developers attempt to select or create procedures for developing educational programs, they must choose from a wide array of possibilities. Lacking reliable indications of the relative strengths and weaknesses of different approaches, they often make arbitrary decisions. Concern about such apparent inadequacies in the curriculum development knowledge base has led researchers to ask whether it would be possible and worthwhile to carry out studies comparing diverse development procedures, studies that might provide decision-makers with sounder bases for choosing among alternatives.

If we are seriously to consider the conduct of such studies, we must determine the major alternatives and variable elements to be compared, whether comparative research having adequate reliability is feasible, and whether the potential usefulness of such studies is great enough to warrant the probable expense. The intent here is to devote

- Formulate (usually early in the game) their program's theoretical foundations, the major functions of which are to explicate the purpose and ideas that will guide development and shape the curriculum itself.

- Disagree about optimum goal format and use, but agree that development projects must be guided by goals of some sort, that goals should be expressed early and that goals may be modified as development progresses.

- Use the results of research on learning and psychological development as a guide to students' capabilities.

- Accomplish their work through the coordinated, cooperative efforts of groups of people having various competencies.

- Initiate market assessment, market creation, dissemination, and field implementation activities during early stages of development.

- Attempt to supply those who must implement the new curricula with requisite understandings of new subject matter and teaching techniques by providing staff development materials and training.

- Disagree about the best ways of testing curricula, but agree that curricula should be tested in some fashion at various stages of completion and that the curricula should be revised on the basis of such testing.

- Argue for prolonged development-revision cycles and continued funding to carry out periodic updating and improvement.

Variable Procedures and Characteristics

In addition to the aforementioned commonalities, curriculum development procedures also exhibit important variations. The following ten topics certainly do not exhaust all of the procedural characteristics that might be varied in comparative studies, but they do include some that emerge, in my view, as most significant.

Origins and Motivation: As indicated

here, all curriculum developers try to determine what types of curricula are needed. What varies here is the *way* in which these needs are determined. In some projects, "consumers'" expressed and perceived needs, problems, and desires play major roles in decisions about types of programs to be developed. The initiators of such projects monitor community and societal trends and requirements, users' reactions to other programs, and changes in important aspects of educational settings. Other projects are motivated by the developers' perceptions of what is needed. For example, some projects are initiated by scholars who feel that available programs do not provide accurate, up-to-date, or stimulating representations of a particular discipline or by experts who conceive of new instructional strategies around which they propose to develop new programs.

Type of Sponsorship: Sponsoring agencies' characteristics can affect procedures throughout development projects, particularly in the early stages. When the sponsor is a *public* institution (for example, the National Institute of Education, the Office of Education, the National Science Foundation), curriculum development projects may begin in two ways. In the first, in which the sponsor is most directive and prescriptive, needs are assessed and basic program characteristics are specified by the sponsoring agency itself. In the second, potential developers themselves determine needs, conceive of programs designed to meet the needs, and propose their ideas to potential sponsors. When the sponsor is a *private* institution (usually a publisher), developers tend to take their leads from the problems, needs, and wants expressed by potential users because private firms are necessarily interested in producing programs that sell. Some observers claim that this orientation delimits the bounds of creative possibility and generally tends to result in less drastic change.

Type of Developer: The most common developers of curricula to be used regionally or nationally are groups in universities, private firms, and federally-sponsored Regional



Early in their work, curriculum planners determine what types of new curricula are most needed or the extent of need for a new type of program under consideration.

Laboratories and Research & Development (R&D) Centers. University groups differ from Regional Laboratories and private firms in placing greater reliance upon students and faculty members, persons who can devote only part-time to curriculum projects. Project staffs in Labs and private firms include more employees who spend all or most of their time on single projects and who specialize in particular aspects of development (for example, design, evaluation).

Moreover, private firms and Labs must attempt to produce curricular products as efficiently as possible and, therefore, employee training emphasizes skill extension and refinement, rather than initial skill and knowledge acquisition. In university groups, on the other hand, one of the necessary functions of development projects is to teach students and, consequently, some resources must be devoted to such training. However, it must also be remembered that university-based groups partially recoup some of this lost economic efficiency through the use of small staffs and substantially lower wages for students.

Type of Target Audience: Variations in the intended primary users of new curricula have some obvious implications for procedures used in development. For example,

developmental psychologists' advice is sought more by the developers of curricula for elementary-aged students than by the developers of graduate school curricula. Scholars participate more frequently in developing college curricula than elementary curricula. Additionally, differences in the types of curricular activities, media, and writing styles that are appropriate for particular age groups require different competencies in development projects.

Aspects of Content—Knowledge, Embodiments, and Approaches to Learning: There are three distinct, although closely interrelated, aspects of curriculum content—knowledge, embodiments, and approaches to learning—that contribute to variations in development procedures. The term “*knowledge*,” as I will use it here, refers to content in its abstract form. It includes the facts, ideas, concepts, and principles that are known, regardless of how they are expressed. Knowledge is expressed in a variety of forms, or “*embodiments*,” which include all of our tangible, visible, and audible vehicles for recording and communicating what we know: books, stories, reports, films, photographs, drawings, paintings, and so forth. These “*embodiments*” are used in a variety of “*approaches to learning*” by people who are

attempting to acquire particular "knowledge": reading and thinking about a report, discussing the ideas being communicated, attempting to apply generalizations in specific situations, writing summaries or interpretations of what has been read or heard.

Although every curriculum developer must attend to all three content aspects in one way or another, there are variations in the ways developers deal with each aspect and in the emphasis they place upon each. There are three most common patterns of the knowledge-embodiment-learning approach relationship. The first was more prevalent prior to the large-scale work of the 1950's and 60's, when textbook authors would concentrate most on the creation of new content embodiments. These authors would occasionally select new knowledge for the school curriculum, but most frequently they would simply incorporate the commonly taught content into new textbooks. They gave some attention to learning activities, for example, by suggesting topics for class discussion, but they focused on the creation of new ways to express common content.

The second pattern occurs when developers select knowledge which is new to the instructional situation *and* which is already expressed in appropriate, usable embodiments. In these cases, the curriculum developers select knowledge and embodiments, and concentrate on the creation of new ways of approaching these embodiments. For instance, most developers of literature programs do not have to write new novels. Instead, they select a number of literary works (largely by considering their interest, value, and relationships and the sophistication of those who will study them) and then invent ways for teachers and students to read them, think about them, talk about them, write about them.

The third pattern occurs when developers decide to emphasize the introduction of knowledge that is new to the instructional situation. When this is the case, the developers must also devote attention to the creation of *both* new embodiments and new learning approaches, because in most cases neither already exists in any appropriate

form. This pattern, involving attention to all three content aspects, has been most common since the curriculum projects of the 1950's and 60's demonstrated that the knowledge presented in elementary and secondary curricula is not fixed and sacrosanct.

Subject Matter Area: Subject areas vary in the types of concepts they include, the ways in which they are investigated, the ways in which they are viewed and treated in schools, and the structure of the knowledge they encompass. These characteristics bring powerful forces to bear on the curriculum developers, providing frameworks for what can be done, structure to much of the content, and limitations to instructional possibilities. For example, programs in areas where delimited sets of skills are to be transmitted are often well served by the careful specification of precise behavioral objectives and the use of evaluation devices that test for specific gains, while broad open-ended goal statements and evaluation devices are the only sensible vehicles in creative areas where results cannot be thoroughly predicted.

Types and Usages of Objectives: Although virtually all developers agree that objectives of some sort must provide guidance in curriculum projects, they differ substantially in the types of objectives they use. Some favor broad educational goals, while others prefer more detailed, specific behavioral objectives. Some refuse to begin developing instructional activities or materials until comprehensive sets of specific objectives have been completed, while others start development with only the most general intentions in mind, letting additional goals and more specific objectives evolve as development proceeds. Some conduct extensive, painstaking analyses of the knowledge and skills to be taught or the learners to be educated, others carry out broad assessments of social and educational needs, others conduct critical analyses of available programs, and still others rely heavily on personal experience and common sense observations.

Staff Composition: Curriculum project directors must look for a variety of com-

petencies in building their staffs and must make decisions about the balance between specialists and generalists and the participation and roles of potential product users in the development process. Each phase of development tends to be accomplished more professionally when full-time specialists are available and able to focus their energies on their areas of specialization. On the other hand, in small-scale projects where staff members must perform more functions and participate in more phases of development, overall commitment to the project and coordination among parts are likely to be higher.

User involvement in curriculum development varies in both type and extent. In most curriculum development projects, teachers do not become actively involved until materials are ready for testing and, even then, they do not actively participate in writing and revision activities. Instead, they merely use the new materials to instruct students, following the developers' instructions and supplying their reactions. Other projects vary this pattern, usually by hiring teachers or graduate students to finish developing materials according to guidelines and prototypes that have been prepared by subject specialists or professional developers.

Program Evaluation: Most curriculum developers evaluate their program before, and sometimes after, dissemination. The extent and rigor of these evaluations vary widely, though, ranging from informal try-outs designed to yield some clues for revision to rigorous field tests designed to yield more elaborate "summative" information. More rigorous designs are expensive, but their advocates claim that unless they know precisely what a program is supposed to accomplish (through predetermined objectives) they cannot adequately judge its effectiveness in achieving its intended purposes and, unless they can compare the results of using the developed program with the results of using something else (through experimental/control group designs), they cannot assess the relative superiority of competing programs and cannot determine the causes of learner changes. It would be of great value to

empirically, systematically compare the costs and benefits of the alternative designs, determining the unique yields of each, when these yields are worth the cost, whether there are less expensive ways of obtaining the same yields, and the stages in the curriculum development process at which particular designs are most useful.

Obstacles to Studies Comparing Development Procedures

As the preceding discussion indicates, the procedures used in developing curricula vary significantly. As many developers have declared, it would seem wise to investigate empirically these variations in order to provide more helpful guidance to those who must decide which procedures to use in development. However, there are some powerful obstacles to the required studies and to the investments they would entail, including the following:

Competition Between Program Needs and Study Needs: A major, and almost inevitable, obstacle to the conduct of controlled comparative studies is the potential for conflict between the needs and wishes of the procedural investigators and the needs and wishes of the developers, which will almost always be considered paramount. Thus, even though the investigators are likely to build in particular types of variation in the beginning, the threats to control are numerous. Most such threats are justifiable and would be difficult to do much about.

Process-Product Interdependencies: Curriculum development means and ends are usually so closely tied that many types of procedural variation become absurd. In order to effect many types of procedural variation, investigators would have to vary crucial program characteristics and, as a result, they would end up carrying out studies that concluded "Procedure A works better in developing programs such as X than Procedure B does in developing programs such as Y." What we need, of course, are studies which compare the effectiveness of alternative procedures (A and B) in developing the same type of curriculum (for example, X).

Difficulty of Predicting Procedural Requirements: Most curricula are outlined in very general terms when development begins and specific goals, plans for learning activities, and requirements for writing, illustration, and mediation usually evolve as development proceeds. For this reason, it is usually difficult to dictate predesigned, unalterable modes of procedure before development begins. Such required flexibility further reduces the likelihood of a controlled comparative study.

The Importance of Individuals: Another characteristic of curriculum development that dictates against well controlled experiments is that much depends on *who* is involved. Curriculum development projects are idiosyncratic. Each has certain combinations of people, elements, and characteristics that will not be duplicated in other projects. Hence, the generalizability of many potential findings, which would depend so much on particular circumstances, would be quite low.

Funding Agency Problems: The present situation in many funding agencies reduces the chances of obtaining funds for projects designed primarily to comparatively study different approaches to curriculum development. After spending millions of dollars on large scale curriculum development in the 1950's and 60's, many policy-makers in foundations and federal agencies feel that other things are more important and are reluctant to fund curriculum efforts. Moreover, even if development projects were to be funded by foundations or federal agencies, most would be sponsored by offices that specialize in particular categorized areas, such as career education, bilingual education, reading, mathematics, or science. This sponsorship situation raises two additional obstacles to the conduct of a procedural-variation study. First, each such office is authorized to spend money only in the areas to which it is addressed and, because many procedural variables are so dependent upon content characteristics, this immediately limits procedural variation possibilities. Second, most such offices do not have enough money to spend on what they wish to develop,

much less on projects designed to vary largely in how development proceeds.

Needs and Prospects

In light of present funding shortages, it is increasingly clear that if we are sincerely interested in more reliable indications of the relative value of alternative developmental approaches, we will have to learn to take better advantage of opportunities to study developmental projects naturalistically, delineate more precisely the most crucial focuses for comparative study, and give more attention to questions of economic and procedural efficiency.

Curriculum developers no longer enjoy the generous funding to which they have grown accustomed. And yet they cannot just give up, saying that without exorbitant support curriculum development cannot be done well. There are many indications that the higher costs of more sophisticated and extensive procedures are not the sole reason for the increasing expensiveness of development. In many cases, it seems, greater expenditures reflect substantial amounts of waste. Much of this waste results from developers' inability to distinguish between necessary and superfluous tasks and their ignorance of more efficient, but equally effective, ways of performing necessary tasks.

Although a period of relative austerity will certainly slow the momentum that has been achieved in curriculum development, it may also force some long needed self-study, which, in the long run, could prove to be much more beneficial than a sustained intensity of development itself. Following the line of thought presented here, it seems that two of the most important questions for such study would be: What procedures are essential to high quality curriculum development? and, What are the most efficient ways of carrying out these procedures? Further analysis by both theorists and developers will suggest other important focuses for comparative studies. I encourage immediate commencement of such consideration. Failure to do so may necessitate neglect of the procedural advances that have been made. □

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