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ABSTRACT

Curriculum alignment (CA) refers to the congruence of all the elements of a school's curriculum: curriculum goals; instructional program--what is taught and the materials used; and tests used to judge outcomes. CA can be a very powerful can be a very powerful factor in improving schools. Although further research is needed on CA, there is considerable literature on the link between tests and the curriculum. Effective schools research also supports CA, emphasizing the link between curriculum and instruction. The functional organization of the school is also an important factor because schools would benefit from a coordinated approach to setting goals, curriculum development, and testing, rather than have these factors addressed as three separate elements. It is important, within the current emphasis on improving teaching, to give sufficient consideration to what is being taught and why. Some programs have been developed to help achieve the process of CA: (1) the Educational Products and Informational Exchange's Integrated Instructional Information Resource Program; (2) Southwest Regional Educational Laboratory's Instructional Accomplishment Information System; (3) Michigan's state reading test redevelopment; and (4) the staff development program in Inkster, Michigan. A list of questions is included which may be used to audit objectives, instruction, and tests. (GDC)

CURRICULUM ALIGNMENT

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CURRICULUM ALIGNMENT

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In a recent article on quality and equality in education Beau Fly Jones (1986) suggests that curriculum alignment is one of the key features that distinguishes cognitive instruction from most mastery learning programs and other traditional skill directed programs. Cognitive instruction is emerging as an important issue in education and, as outcome-based education becomes a more necessary aspect in our schools, the alignment of a school's curriculum will be widely debated.

Curriculum alignment is an attractive concept to some because it is deceptively simple; all we have to do is make sure our curriculum is "in line" with our district objectives and that our district program reflects what is taught. What could be simpler than that? It is also dismissed out-of-hand by others; when there are important concerns in our schools such as helping teachers adopt effective instructional strategies, why should we concern ourselves with more educational jargon? In practice however, the process of alignment is exceedingly complex, calling for the careful articulation of all parts of the curriculum, the careful and technically difficult development of appropriate tests, and cooperation of all the players in the local educational system.

As originally conceived, alignment refers to the attempt to achieve the best possible relationship among the elements of student performance (defined both in terms of school objectives and assessment of outcomes and accomplishments) and instruction. Instruction is a function of the teachers

in school and the resources they use in carrying out these actions. The term was coined by Southwestern Research Laboratory to describe a school improvement process which strives for a strong relationship among the performance and instructional aspects of schooling.

Curriculum alignment, simply stated, refers to the congruence of all the elements of a school curriculum--the curriculum goals, the instructional program (what is taught and the materials used), and the tests used to judge outcomes. Curriculum alignment can be a very powerful factor in improving our schools. Eisner (1985) states that test scores have come to function as one of the most powerful controls on the character of educational practice and, as a result, the consideration of the alignment of all aspects of the educational process becomes a critical variable. The primary problem that is apparent to even the casual observer is that most school policy makers and administrators give little attention to the alignment of their system's curriculum.

This paper addresses the nature of curriculum alignment, raises issues of particular concern, and illustrates processes for accomplishing alignment. The purpose is to highlight the importance of alignment to school outcomes and to suggest issues for further examination and research. The lack of attention to alignment on the part of public school policy makers and administrators appears to be related to three particular factors which are discussed below. These factors also serve as a backdrop to our discussion of implications of curriculum alignment and recommendations.

Lack of Research on Alignment

Although curriculum alignment is posited as a fundamental and critical concern, very little practical procedural research exists to guide the

efforts of local school districts. There is, however, a considerable body of literature on the nature of linking tests with the curriculum. Much of the research involved points out not only the importance of the linkage between tests and curriculum, but more importantly, points our the many problems involved.

Airasian and Madaus (1983) for example, have questioned whether we are interested in achievement on more global, transferable skills in the schools or achievement on school-specific skills. They point out that standardized tests address achievement on more global transferable skills but their construct validity makes them questionable as a measure of school-specific skills. They have found that school-based subjects (content areas) had more between-school variance than did subjects related to a more general background such as reading and social studies.

Linn (1983) has noted four features of classroom tests that enhance the instructional importance of those tests. The first is the match between the test items and the instructional objectives. He points out that test items should clearly measure defined learning outcomes. This is much easier for teacher-made tests with one group of students than for achievement tests that must be developed for larger groups in total school systems. The second feature is that the use of test results provides feedback to teachers and students regarding what is learned. Further, the use of tests can be used to flag important concepts. And fourth, sanctions and rewards are attached to test results. All of these features for which classroom tests are sometimes used enhance their instructional importance.

Researchers at the Institute for Research on Teaching at Michigan State University however, have pointed out that standardized tests are not as

standard as most people think. They note that in mathematics teaching at the fourth grade level the texts have little in common with the standardized achievement tests used in the schools. Through studies of classroom practice, it was also found that students were tested on topics they had not been taught and, conversely, were taught topics which were not tested. (Northwest Regional Educational, Laboratory, 1985)

More generally, tests based on a school's curriculum can operationalize objectives much more easily than can standardized tests. An assessment strategy also may be derived directly from the objectives. However, this does not consider the curriculum and may indeed not help the process of curriculum alignment.

Curriculum Alignment and Effective Schools

From another perspective the concept of curriculum alignment appears to be clearly supported in the literature on effective schools. Those practices identified as emerging from the research on effective schools would appear to result in an organization where the curriculum and instructional program would automatically be aligned with the goals of the school and the monitoring/assessment process. For example, the effective schools literature points out that teachers know, and can articulate, where the school is going and how they can provide the instruction to get there. This statement reflects a curriculum which is aligned. Brookover (1979) points out that, in an effective school, the grade-level objectives are clearly identified and understood by all members of the staff; there is regular monitoring and assessment of the instructional program; and, the principal sees to it that the appropriate tests and evaluations are used in the process. In effect, Brookover puts the onus for curriculum alignment on the principal to oversee

this kind of school organization. In synthesizing the research on school effects, Cohen (1983) has found that in effective schools, curriculum and instruction are clearly interrelated. According to Good and Brophy (1986), "This means that school goals, school grade-level and classroom instructional objectives, instructional content and objectives, and measures of pupil performance are all carefully coordinated such that instructional efforts of teachers and other instructional staff are consistent and additive." The implications from such an effort would be that there are: 1) clear and publically agreed on goals that form the basis for selecting objective, content, and materials, 2) there are no huge differences in the time allocated to the various subjects that would be in conflict with the basic objectives of the school, 3) there are shared goals by all members involved in the school, and 4) there will be clear and articulated overlap in curriculum, test content, and textbooks use. Such statements illustrate the critical nature of alignment and provide evidence that curriculum alignment must be a fundamental concern of schools. It remains somewhat of a paradox that there are very few guidelines to guide out efforts in the schools.

The Functional Organization of the School

Traditionally, the functions concerned with setting the intentions of the school, developing and implementing the instructional program, and assessing district outcomes have been addressed as three separate organizational elements. This may not be generally acknowledged but is an observable consequence of current policies in some school districts. Setting the overall intentions is too often considered only as a policy matter to be decided upon by the administration and approved by the school board.

Curriculum committees often work in isolation from the research and testing unit. Even in school systems where there is an acknowledged effort at coordination, the outcomes often do not match the intentions.

A related issue which may have a negative impact on efforts to achieve curriculum alignment is the focus of much of our current concern for educational improvement. The emphasis in many school districts on school-wide adoption of the "elements of effective instruction" has focused our attention on the "how" of teaching at the expense of sufficient consideration for "what" is being taught or the "why" of teaching.

Teachers have readily accepted the current emphasis on improving instructional procedures because it has provided an aspect of the teaching process which has been missing from training programs in the past. However, as long as we emphasize the "how" it will be difficult to get teachers to move to the "what" question which we must be concerned with in an aligned curriculum. Jones (1986) notes that one of the problems resulting from the current widespread interest in "elements" of effective instruction (such as those promoted by Madeline Hunter and others) is that the concept of instruction often has very limited meaning. Instruction often refers only to direct instruction and does not refer to the specific strategies used or needed to help students understand information or, by implication, does not refer to the subject matter. Such a conception of instruction is used at the expense of examining curriculum issues that would necessarily be considered by teachers who are dealing with an aligned curriculum.

The Curriculum Alignment Process

The above discussion illustrates that for curriculum alignment to be achieved there must be more widespread discussion and demonstration of the

importance of alignment and that practical procedures must be developed to aid schools. However, as noted earlier, few procedures currently exist which can provide guidelines to enable schools to align their curricula. The examples below are illustrations of the type of current activity which may result in alignment. The first two are processes specially developed to achieve curriculum alignment. The second two cases described are a state program and a local school program which illustrates the process of alignment as an unintended programmatic outcome.

Example 1. The Educational Products and Informational Exchange (EPIE) offers a curriculum alignment service through its Integrated Instructional Information Resource Program (IIIRP). This is a computerized curriculum alignment data system where a school dovetails their objectives into the IIIRP data base and then correlates this input with the objectives specified in textbooks, tests, computer software programs and video tapes in content areas. Information is then provided as to where textbooks need to be supplemented through teacher-provided instruction and materials. This process is available to schools who can supply a clear statement of the school's curriculum objectives. Presently, they offer this service to schools from kindergarten through the eighth grade in mathematics and science. In 1987, language arts and reading will be added to their program.

Example 2. The Southwest Regional Educational Laboratory (SWRL), which is credited generally with coining the term 'curriculum alignment', offers a process called the Instructional Accomplishment Information System. This system was designed to provide schools and school districts with information for reviewing and planning their instructional program at the classroom, school, and district level. The system uses an Instructional Accomplishment

Inventory as an alternative to standardized achievement tests as the way to describe student performance on specific skills. The SWRL procedure results in a series of objectives which are aligned to the instructional program. It has been used in the Los Angeles and Sacramento school systems.

Example 3. The state of Michigan currently is involved with a total redevelopment of the state test for reading achievement (a subtest of the Michigan Educational Assessment Program). As is often the case with state-level efforts, test developers work in isolation from those in districts who are concerned with instruction. Behr (1982) has noted that for alignment to take place "instructional planning has to be put into operational terms at both the district and state level." In Michigan, the process of developing the new test began with a review of current research in the field of reading and the involvement of a curriculum review committee made up of reading experts from throughout the state. In the process of developing the new test, the test developers worked very closely with the curriculum review committee who were responsible for developing a "New Definition of Reading" for the state. The curriculum group developed a comprehensive procedure to assist school districts in reviewing and changing their current programs in order to bring them into alignment with the concepts involved in the new definition. This interactive cooperative process has produced:

- set of state reading objectives based very carefully on research and instructional practices
- a set of comprehensive staff development activities in use throughout the state which are directed specifically at bringing instruction into alignment with the state objectives
- a test developed from the objectives and a clear understanding of the instructional procedures used by teachers in the classroom.

The potential of this comprehensive, integrated approach is very great in

the state of Michigan, even though it was not the result of a planned curriculum alignment process. Through cooperative action, the situation developed where people from the research community, teachers and curriculum workers in the field, and test developers were brought together. The overall plan, which is partially implemented, guides the separate pieces--tests, curriculum, and objectives--into a rational pattern of close alignment.

Example 4. The fourth example is that of a local school district's staff development program. In 1982, an elementary school in Inkster, Michigan, with the help of a small grant from Eastern Michigan University, began a staff development project based on an interactive needs assessment involving all staff. The project was to develop materials to match the learning objectives defined by the school system and those measured on the Michigan Educational Assessment Program, the state's testing program for every fourth and seventh grade pupil. As staff examined texts, materials, available lesson plans, and instructional activities, they began to fill out the curriculum to match the stated intentions of the system.

Once the materials were in place, staff realized that the assessment instruments did not measure what was being taught in the classrooms and what the school said it intended to teach. As a result, the tests would not provide adequate information about what students were learning. With the assistance of test development specialists from the state department of education, staff developed tests to assure that the best possible information about whether students were learning what they were being taught would be available. Thus, beginning with the development of "stuff" for teachers to use in classrooms, the school turned a materials development project into a curriculum alignment project. Staff began to focus on the three parts of

curriculum alignment--objectives, instruction, and tests. There is evidence that student scores on the state achievement tests have increased since the inception of the project.

Toward a Curriculum Audit

It is convenient to view the three components or aspects of what is to be aligned as points on an equilateral triangle: the objective of the school district, stated as clear operational definitions of what students are expected to learn at one corner; the instructional programs to accomplish the objectives at one corner; and the assessment or test at one corner. It is not unusual in local school districts for personnel involved with each of the above three aspects to work in different sections of the organization and for their work to be uncoordinated. It is important for staff of each of the three components to work together to address questions of curriculum alignment. It is possible to begin the "audit" at any of the three points. Following are some questions to ask, depending on the point of departure.

IF WE START BY EXAMINING TESTS...

1. Does the test reflect district goals?
2. Do the items measure students' ability to perform district objectives?
3. Does the test provide sufficient information to make decisions about whether students have reached a given level of mastery?
4. Does the test reflect the instructional program, the textbooks, materials, and instructional methods?
5. Does the test reflect the universe of information presented in the classroom?
6. Does the test assess students' ability to do something in the same way as they are instructed?

IF WE START BY EXAMINING THE DISTRICT'S GOALS AND OBJECTIVES...

1. Do teachers understand the district goals and objectives, for K-12, not just their corner of the world?
2. Are materials available to teach district goals and objectives?
3. Are objectives stated so that they lead to an instructional program and measurable outcomes?

IF WE START BY EXAMINING INSTRUCTION...

1. Are instructional materials designed to instruct students in the objectives the district has chosen as important?
2. Are teachers teaching the objectives? Are teachers guiding instruction and practice so students master objectives?
3. Is there attention being paid to the what of teaching as well as the how?
4. Do lesson plans reflect district goals and objectives?
5. Do lesson plans state precisely what students are expected to learn?

Suggestions for "curriculum audits" seem to center on examinations of what is on paper (objectives, texts, and tests) without an examination of what happens in classrooms. The manner in which students are taught to perform tasks should be reflected in the test instruments. Little children who are taught to add or subtract two numbers in a column format may not be able to perform that same task in a sentence format. This is a small example of why the staff of the a school needs to be involved in the "curriculum audit" and why the examination must go beyond what is on paper.

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