

The D.C. Schools' Plan for Systemwide Achievement

Firmly committed to a competency-based approach, the Washington, D.C., Public Schools have begun implementation of a program that will help students to celebrate their achievements as they reach specific milestones in the curriculum.

A self-described revolution is occurring in the school system in Washington, D.C. The Public Schools of the District of Columbia are taking steps toward a competency-based educational program that will prepare them for the day when their school board may decide to establish competency-based graduation requirements. This large urban school system is heeding the maxim that failure to plan leads to planned failure. The school district is seeking to establish "in place" an effective support system that focuses on monitored student achievement of specific measurable competencies from K-12. Having developed a system-wide plan, they are in the process of working their plan.

A Commitment to Competency-based Education

The District of Columbia Public Schools system has made a firm public commitment to spend three years "tooling up" for a systematic move toward competency-based education. In an effort to turn itself around academically, the system is calling on the professional competency of its 10,000-member staff to be focused on helping students to be able to celebrate their achievements *en route* to graduation as well as on the day of graduation.

The school board has publicly expressed unanimous support of the superintendent, Vincent E. Reed, who has stated clearly that the top priority in the system is the move toward competency-based education. The system's own realistic appraisal of its carefully planned efforts is that the benefits of the commitment will begin to be evident only after the competency-based program has been fully implemented in every classroom throughout the entire system. Their commitment suggests that this is no passing fad; rather, the

Public Schools of the District of Columbia will be a major expression of competency-based education for many years.

A massive professional development effort for all staff members—administrators and teachers—has been initiated in order to begin the implementation of a competency-based curriculum during the school year 1978-79. The school year 1976-77 was a year during which the entire staff was made aware of the definition and philosophy of competency-based education.

During the summer of 1977, approximately 2,000 teachers, curriculum writers, supervisors, department chairpersons, and principals received in-depth training in ways of implementing competency-based education in their classrooms. Teams from each school in the system then developed plans to provide professional growth opportunities (Shingleton, 1977) for the staff of their own schools during the school year 1977-78. The systematically planned staff development at the local school level during the 1977-78 school year will focus on understanding competency-based education and commitment to the approach by each of the 10,000 staff members.

At the system level, a highly competent core staff is planning and coordinating each phase of the move toward competency-based education. In addition, at each level in the decentralized school system (including the school building level) there is a CBC (competency-based curriculum) coordinator. Each of the CBC coordinators is a member of a systemwide implementation team that serves to provide cohesion for the total effort throughout the system.

During the 1977-78 school year, there will be pilot schools, exemplary schools, and many other special thrusts. As you talk to teachers and administrators in the D.C. Public Schools, there is a

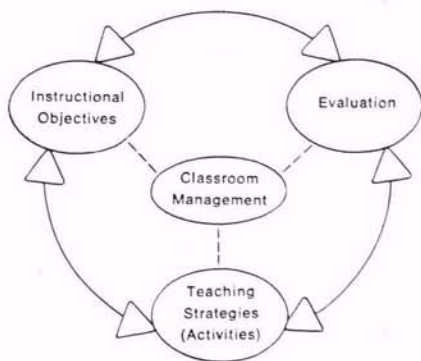
sense of everyone pulling together with hope and expectation for success. They believe in what they are about, and they will tell you so freely with excitement.

A Focus upon Competencies

This urban school system is using an approach to competency-based education that utilizes an Instructional System of Checks and Balances as suggested by Alfonso, Firth, and Neville (1975) and described in more detail by Cook and Walbesser (1974, 1976). The model of the Classroom Instructional System being utilized is illustrated in Figure 1. The necessary supporting relationship of the four components in the model is illustrated by the arrows indicating the need for *performance agreement* between all four components.

The instructional objectives are considered the heartbeat of the entire classroom system. Learning hierarchies and behavioral objectives are the basic elements of the instructional objectives component.* It is considered critical that the teacher know what prerequisite competencies are needed by her/his students in order for them to learn the more comprehensive skills. When the desired competencies are properly sequenced before planning the activities and developing the

Figure 1. Model of Classroom Instructional System



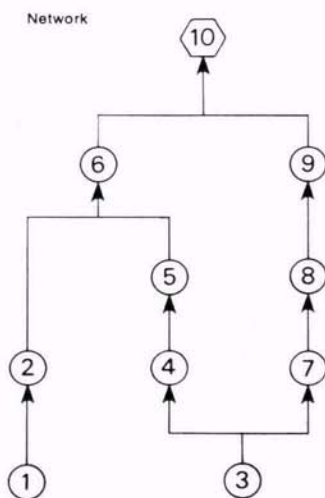
tests, the teacher has a better chance of helping students to succeed.

The following types of instructional objectives¹ illustrate the focus on the mastery of capabilities stated in terms of new performances to be exhibited by students:

- Given a centigrade thermometer and a sub-

¹ These examples of objectives are from *The Successful Teacher*. Cook, 1976.

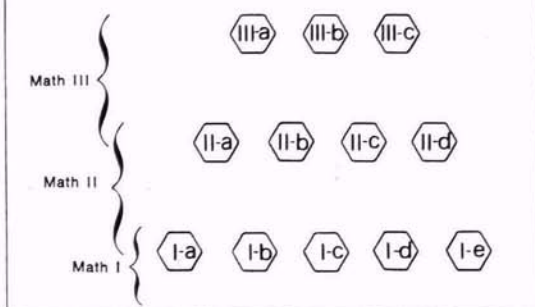
Figure 2. Learning Hierarchy for a Unit of Figurative Language



Behavioral Objectives:

1. Given figurative expressions orally and three choices, the learner will *identify* the meaning, which best interprets the figurative expression with 80 percent accuracy.
2. Given a sentence containing figurative language and a choice of three responses, the learner will *identify* the meaning of the figurative language by selecting an appropriate response with 80 percent accuracy.
3. Given a sentence and three similes from which to choose, the learner will *identify* the simile which best conveys the meaning of the sentence with 85 percent accuracy.
4. Given selection containing figurative expression the learner will *identify* the expression and state another way of saying the same thing with 85 percent accuracy.
5. Given sentences containing words of personification the learner will *identify* the words which indicate personification with 85 percent accuracy.
6. Given sentences containing metaphors and a list of meanings, the learner will *match* each metaphor with its meaning with 85 percent accuracy.
7. Given a poem containing alliteration, the learner will *identify* the words of alliteration with 100 percent accuracy.
8. Given figurative expressions the learner will *order* them according to metaphor, simile, and personification with 100 percent accuracy.
9. Given a series of statements in which hyperboles have been used, the learner will *rewrite* the statements to convey literal meaning with 100 percent accuracy.
10. Given a series of statements containing figurative expressions, the learner will *identify* each, construct a definition for each and describe each in a contextual situation with 100 percent accuracy.

Figure 3. The Interdependent Relationship of the Terminal Objectives of Three Sequenced Math Courses



stance in liquid or vapor form, the physical science student will be able to measure the temperature of the substance. The measurement must be within two degrees of the actual temperature and the measurement must be obtained within this accuracy on three out of four substances measured.

- The history student will be able to describe the method to study history that he/she thinks is "best" and name reasons for his/her choice. The description must include the name of the method subscribed to, who advocated the method, and how the method differs from at least two other methods.

- The English student will be able to construct a paragraph. The paragraph must be constructed in class on a topic chosen by the student and must include topic, supporting, and closing sentences which are themselves complete sentences.

- When presented with an equation of the form $ax \pm b = c$, the Algebra I student will be able to demonstrate the procedure for obtaining the solution set for x . The student must be able to demonstrate the procedure and obtain the correct solution for 12 of 15 equations.

- The ninth grade social studies student will be able to write an essay in which he/she describes how human beings used tools to adapt to their environment. The description must be written in class during a 30-minute period and must include three examples that correctly support the general description.

In order to ensure that students have the prerequisite competencies before advancing to more complex competencies, learning hierarchies like the one illustrated in Figure 2 are developed.

In this example, objective #10 is considered the terminal objective of this particular reading unit.² This learning hierarchy was constructed by teachers during the summer of 1977. The validity of such hierarchies will be determined during the 1977-78 school year utilizing a version of the Walbesser validation procedure (Cook and Walbesser, 1974).

The *instructional activities* are designed to reflect the different conditions of learning (Gagné, 1977) that support the different types of competencies designated in the instructional objectives. Every effort is made to assure that objective-referenced tests are used to *evaluate* the students' achievement in terms of what they were taught. In this instructional system, the teacher's role includes being a *manager* of the classroom in such a manner that the other three components can function properly.

To provide cohesive structure to the total school curriculum, curriculum guides are being developed with the use of learning hierarchies. Teachers are being introduced to the use of task analysis procedures (Gagné, 1977, and Cook and Walbesser, 1974, 1976) for determining the prerequisites necessary at each grade level for a student to successfully achieve the basic competencies for graduation. The same task analysis procedures are being used by curriculum writers to provide structure throughout the curriculum across all grade levels and in all subjects.

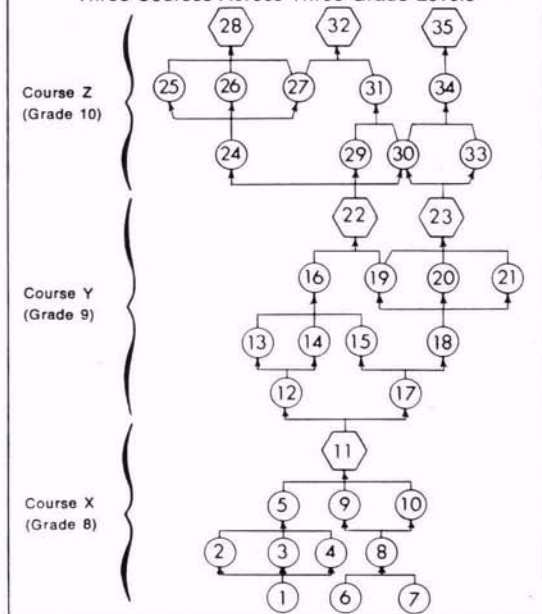
Figures 3 and 4 illustrate the basic process (Cook, 1976) that is being utilized to provide continuing structure to the total curriculum. The interdependent relationship of the terminal objectives of three sequenced math courses is illustrated in Figure 3. The terminal objectives for

²This example of a learning hierarchy is from: *Competency-Based Curriculum Guide—Reading*. Washington, D.C.: The District of Columbia Public Schools.



Joan Brown, special assistant for competency-based curriculum, addresses a group of District of Columbia Teachers.

Figure 4. A Network of a Learning Hierarchy for Three Courses Across Three Grade Levels



Math II are shown as prerequisite competencies for entering Math III.

Similarly, the terminal objectives of Math I are prerequisite competencies for entering Math II.

Once such terminal objectives of each sequenced course in a curriculum have been established, the next step in the task analysis procedure that is utilized by this urban school system is illustrated in Figure 4. A learning hierarchy is developed based upon the desired outcomes of the terminal course (Course Z). Figure 4 illustrates a network of a learning hierarchy for three courses across three grade levels. The role of such a hierarchy in a structured curriculum is to convey to the teachers an overview of the interdependence of the major competencies across several courses or grade levels.

Teachers are being introduced to applications of the same task analysis procedures for use in their individual classrooms. By the use of objective-referenced instruction and objective-referenced testing in collaboration with continuous self-monitoring of student progress throughout the teaching/learning process, the focus is now upon "instructing until the student learns rather than until the bell rings" (Mager and Pipe, 1976).

A Focus upon Celebration

Acknowledging that they are teaching *persons* who happen to be studying math, art, or English, the teachers utilizing the approach to competency-based education described in this article are purposefully planning opportunities for their students to *celebrate* their achievements as they reach specific milestones in the curriculum. They are making practical application of the belief that if you want persons to remain "turned on" to the process of learning, then you need to provide them frequent opportunities to receive recognition for their accomplishments. An extension of this philosophy is that celebration should be with reference to the real criteria for success: in this case, the achievement of those prerequisite competencies necessary for graduation.

Perhaps for this reason alone, what is being accomplished in this urban school system bears watching by the rest of us. \overline{FL}

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