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SCIENCE ARTICULATION K-12

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I think it is important that we know what I am going to discuss; therefore I feel I should define articulation.

Definition of Articulation—

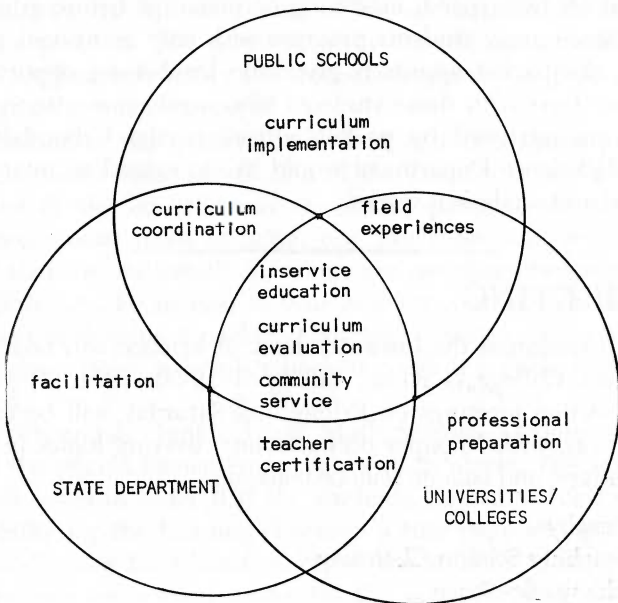
- the action or manner of jointing or interrelating;
- the state of being jointed or systematically interrelated into a whole;
- interrelation of different levels of education (as elementary education, secondary education, and higher education) for ensuring continuous advancement of learning.

Using this definition I would now like to take a look at our educational structure.

Basically, we move our students through our system from elemen-

EDUCATIONAL RESPONSIBILITIES

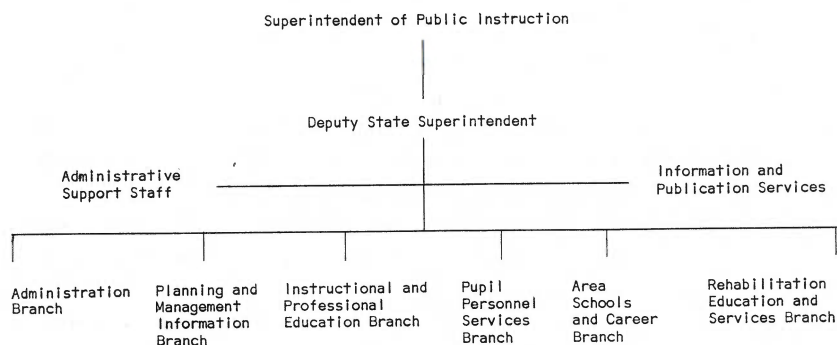
FIGURE 1



tary education to secondary education and then on to higher education if the student so chooses. There is a considerable degree of cooperation among three different organizations that are responsible for public education. Each organization has certain responsibilities to fulfill and all three organizations share certain responsibilities. Figure 1 illustrates these responsibilities.

I will briefly describe these organizations and their basic structure. First, the structure of the Department of Public Instruction has been to a great extent dictated by law. Two different thrusts have been mainly responsible for this dictation, one being certain legal requirements for supervision of aid programs which were delegated by the legislature, and the second being positions stipulated in the law. The Department of Public Instruction has changed with the changing times. Figure 2 illustrates the structure as of today.

FIGURE 2



In the state of Iowa there are 27 four-year colleges and universities approved for offering teacher education curricula. Twenty-five of these colleges and universities offer courses in elementary education and all 27 offer secondary education courses. All 27 institutions offer the bachelor's degree; seven offer the master's degree; one offers the specialist in education; and three offer the doctor's degree. The course offerings and degree plans vary a great deal from institution to institution.

The curriculum offerings of the state institutions are approved by the State Board of Regents. This approval authority is provided for by Chapter 262 of the Code of Iowa.

We are now finally getting through the maze to the public schools. In the state of Iowa we have 24 joint county school systems, 75 county school systems, and 451 community, consolidated, and independent school districts. The enrollments vary from 44,197 to 184 students in K-12 grades (1971-72 data). The educational structure varies drastically between districts. However, there are basic educational requirements set forth by the Code that each school must fulfill.

Now that I have discussed the bureaucracy involved in education, I would like to turn to where I believe a considerable thrust should be made, and this is in the area of inservice education. (You recall from our diagram of educational responsibilities that inservice education was shared by the three organizations.) A considerable effort is being made at the present time, but I feel much more is needed. Last year personnel in the Department of Public Instruction were involved in about 350 workshops and inservice educational exercises. The number offered by the institutions and local schools would also be a very large and impressive figure. However, I believe we need a well-planned ongoing inservice thrust. Some districts are doing this, but too many are not.

All the above-mentioned structures and activities are well and good but the *real action* is where all this meets the students. It is well and good to adopt new innovative curricula, but we should realize that the new curricula can't get to most kids unless the classroom teacher presents an environment conducive to learning.

We usually divide student behaviors into three categories: cognitive, affective, and psychomotor. I don't believe students learn material without an interaction of these categories. If a student learns a formula for acceleration I believe he develops an affective behavior toward science and especially physics. Therefore, the method teachers use to present material and especially their feelings demonstrated toward the material will determine to a large degree what feelings students develop for the material.

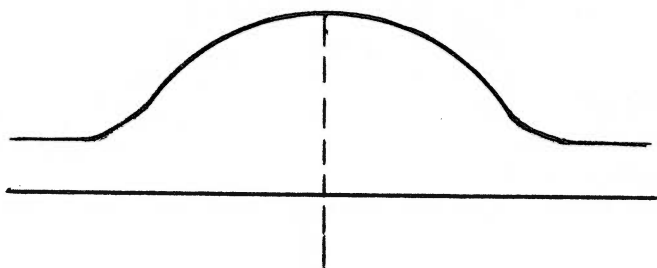
Let's take for example the teacher security symbol. (See Figure 3.)

If we should use this "thing" for grading, what does this imply to the students? In my opinion it tells the students we are going to have some winners and we are going to have some losers! Can we really afford losers in education?

I believe the best learning environment provides for the building of positive self-concepts. This can be done in many ways. One way might be to avoid grading entirely on cognitive behaviors and try to evaluate for several kinds of student talent.

FIGURE 3

TEACHER SECURITY SYMBOL



In this brief time I have had with you I have tried to discuss the basic educational structure from the state's point of view. I have discussed three major organizations: the State Department of Public Instruction, colleges and universities, and the public schools. The basic structures of these organizations provide for certain kinds of articulation—but I have tried to point out that I believe the real game is played in a person-to-person interaction.

Education is an exciting endeavor. Let us make sure some of this excitement is instilled in our students. Remember you are in a business that will have profound effects on tomorrow's direction. Let us not take this responsibility too lightly. I would like to close with this thought—"What you are speaking so loudly students can't hear what you are saying."

CANDIDATES FOR NSTA OFFICE

One of our neighbors, Darrell Goar, has been nominated for president of NSTA. Included among his many achievements is the directorship of an ESEA Title III project (THIS). Darrell is also science chairman for the Moline Public Schools. We wish him success in his bid for the NSTA presidency.

A member of the Project ASSIST team has been nominated for NSTA District Director (District VIII—Illinois, Iowa, Missouri). Joe Moore of Davenport, Iowa, is serving as a coordinator of ASSIST efforts in his area, in addition to serving as educational consultant for the Muscatine-Scott County School System. We wish him success in his bid for the directorship.