CONCERNS about specialization are not new. They have been voiced for more than a decade in curriculum matters and at times have been the subject of heated debate.

The locus of these concerns has been the elementary school. As the knowledge explosion has become an obvious reality, and as more and more learning occurs outside of school, teachers must examine their own adequacy in the realms of knowledge. The old complaint, "They keep adding things to the curriculum and never take anything away," has changed to a new one: "We can't possibly know enough about everything to teach what is expected." In almost every classroom there are now children who know more about something than the teacher knows.

Specialization has seemed like an answer. At least three major forces have taken this position: the national curriculum projects, the teacher certification agencies of the various states, and a large group of scholars in the disciplines. Interestingly, though, all three of these forces are "outside" the professional groups of common school educators; yet their opinions and deliberations are having a potent effect on developments within schools.

Specialization for an elementary school teacher has typically been defined as a strong subject-matter background in one discipline. The national curriculum projects, for example, have been almost entirely built around single subjects—mathematics, physics, anthropology. Each curriculum project has presented convincingly an image of its own importance in the total curriculum.

State certification bodies, too, have pushed for excellence in the only way they knew how—by demanding higher standards of subject-matter preparation prior to achievement of a license to teach. Thus they have strengthened this same definition of specialization.

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Scholars in the disciplines have become involved in the specialization concern by extending their advice to the field of elementary and secondary education. Bestor, Koerner, and Conant have been among the loud voices calling for scholar-teachers in both elementary and secondary schools.

Needed: A New Definition

Where, meanwhile, does the teaching profession fit into the stress on specialization? What voices are being raised to indicate teachers' feelings about this issue? What major contributions are the curriculum leaders making? What are we doing to bring back "inside" the profession a consideration of these major concerns about specialization that have so strongly been espoused by forces "outside" the profession?

It is true that a few voices have been heard within the teaching profession protesting the pressure for scholar-teacher specialization in elementary school and arguing for strong generalist teachers. It is also true that some teachers and curriculum workers have spoken out in favor of more specialist-teachers. The debates, however, have generally been based on outmoded concepts of "coverage," "departmentalization," "prescribed curriculum," "teaching," and the kind of school that has too long been familiar to us.

In 1969 these concepts are no longer valid. The school must be a different kind of place, and the definition of specialization in that school must be appropriate for education in today's world.

Changing Patterns of School Organization

Change in the way schools are organized is finally occurring, and already the implications for the specialization debate are evident. One example is team teaching. This pattern was initially introduced as a means of improved staff utilization, an opportunity for each teacher to be viewed as a specialist in some phase of the curriculum. In adopting team teaching, unfortunately, many schools reverted to the old practice of "departmentalization," without adopting the real essence of teaming (shared planning, shared teaching, shared evaluation) among teachers.

Some elementary schools, however, have found that team teaching offered possibilities for other kinds of specialization not tied to subject-matter departmentalization. Each teacher on a team can be a generalist in the content of elementary education, but each teacher may also be a specialist in some phase of teaching. For example, Teacher A has a particular skill in using role playing, simulation, elaborative thinking. Teacher B is a student of concept development and inquiry training. Teacher C has a strong interest and ability in diagnosis of learning needs in skill development.

Together these team members plan teaching strategies for all curriculum areas and for all the children in their team. These teachers are truly specialists, but theirs is a specialization quite different from the subject-matter-depth definition. These teachers contend that their sort of specialization makes sense in today's changing elementary school and contributes more appropriately to more children than departmentalization.
was able to do. It prevents the curriculum fragmentation that has so often resulted from subject-matter specialization.

A second example of a changing organizational pattern is represented by the World of Inquiry School in Rochester, New York (part of Project UNIQUE, a federally-funded project dealing with a variety of urban-suburban educational problems). In this school, children are assigned to heterogeneous interage "family" groups. For example, a family group may include children with an age range from 7 to 9, or from 5 to 8, or even from 5 to 10 years. The "family teacher" provides individualized instruction in math and reading skills. Each child, in addition, plans his own schedule to take advantage of interest areas staffed by specialists in science, art, social studies, technology, music, library, and "shop" (which may include such interests as photography, cooking, electricity, and a host of other activities).

In addition, many kinds of specialists are brought in, or children are taken to them outside the school, as community resource specialists in such interests as urban problems, fine arts, medicine, human relations, and Negro history. Again, the function of specialization in this school represents a far broader definition than the one so typically ascribed to specialization in the departmentalized school organization. It provides subject specialists but utilizes them within a framework of a truly individualized program.

In these examples, then, we see newer ideas of school organization—ways of organizing both teachers and learners—and a new definition of specialization. Without rejecting the validity of subject-matter-depth specialization, we can also use a broader range of specialties to good advantage. The primary need in any new plan is that teachers make use of the possibilities available to them, rather than to think of departmentalization as the only way to utilize specialists.

**Changing Roles of Teachers**

Class size has long been a focus of teacher complaint. Yet until recently much of the teacher's "teaching" could be done as well with large groups as with small. The real urgency of reducing class size is related to our increasing attempts to individualize and personalize instruction.

Every classroom teacher, in any kind of school organization, must be a specialist in the art of providing a flexible environment for learning. (It may help if each teacher, in addition, is a specialist in one particular discipline, if only to provide a model to children of the excitement of "digging into" history or earth science or mathematics in depth!)

It is important for us to realize, though, that the knowledge explosion has made obsolete or irrelevant much of what teachers "know"; that many curriculum guides are designed for "coverage" of the wrong knowledge for tomorrow's world; and that we have reached a stage when we must abandon the curriculum notion of a sacred body of content to be "learned" by all children.

Consequently, the new teaching roles require that each staff member be a lifelong learner as well as a teacher. The science specialist in a school cannot relax in his knowledge of science gleaned from past study; he must
be a continuing learner of science and a continuing student of instructional materials and procedures. He must be sure that the instructional materials center provides a wide range of science materials, and he must be available for individual children and teachers who are pursuing science interests in their learning. A teacher who is a student of history can help other teachers and some of the children to understand how a historian approaches learning.

Each teacher must still be a generalist in elementary education—generalist in the sense of concern for diagnosing children's unique learning needs, selecting appropriate materials for individual children, and opening up new doors to learning—but serves his specialist function within the total school staff through his availability to all other teachers and to individual children.

Obviously, the definition of specialist suggested here is quite different from the departmentalized teacher definition used for a long time in education. The old arguments of "specialist versus generalist" are no longer valid, in the light of new patterns of school organization and new teaching roles.

**Using Outside Specialists**

Just as new kinds of specialization are emerging within the school, so we are more acutely aware of new kinds of specialists available outside the school. It is not improbable that these persons will eventually become school staff members, full or part time, to the advantage of both children and teachers. We can visualize, for example, the group process or systems analysis specialist as a part-time staff member of a school, like the artist-in-residence or (noncertified) foreign language teacher or guidance counselor now found as specialists in some schools. It is quite possible that a computer specialist will be part of the instructional staff, available not only to teachers and administrators but also to children who elect the study of data processing and computer analysis as part of their individualized school program. Old ideas of teacher preparation and certification will undoubtedly need to be reexamined as new specialties become essential.

Schools do need specialists, but the old departmentalized approach cannot survive within a philosophy of individualized instruction. Schools do need subject-matter specialists, but the old notion of sacred content for all cannot survive in today's knowledge explosion. Schools will need specialists in ways that cannot yet be visualized. If the teaching profession argues either for or against specialization in the old terms, it will be standing in the way of needed change toward new definitions and new kinds of specialization in tomorrow's schools.