

Unfamiliar Waters: Let's Stop Talking and Jump In

Much of the April 1983 issue of Educational Leadership was devoted to reports by John Goodlad of A Study of Schooling. While Goodlad's articles covered his entire study grades 1-12, Barbara Tye focuses here on the study's findings at the high school level.

This article is based on an excerpt from Tye's forthcoming book, Multiple Realities: A Study of 13 American High Schools. Within those 13 schools, 525 classrooms were observed; 644 teachers answered questionnaires and 479 of these were interviewed; 599 teachers provided packages of curriculum materials for analysis; and 7,677 students and 4,212 parents also answered questionnaires. Additional information was gathered from community members, boards of education, school district personnel, school administrators, and support staff.



BARBARA BENHAM TYE

One of the most exciting findings of our study of 13 American high schools was that, contrary to popular belief, teachers of untracked classes do *not* necessarily teach to the slowest students in the group. In fact, we found that as far as course content, teaching methods, classroom climate, and teacher-student interaction were concerned, heterogeneous classes resembled average and upper-track classes.¹ They had the further advantage of being more truly democratic, for they brought together students who had differing interests, cultural backgrounds,

and plans for the future, and gave them all a common learning experience.

On the other hand we also discovered, as have many other studies before us, that tracked classes separate students by ethnicity and socioeconomic status as well as by ability. When combined with the dual curriculum (college prep/vocational), this system of sorting and labeling students is slowly but surely contributing to the creation of a class society

Barbara Benham Tye is Associate Professor of Education, Chapman College, Orange, California.

that could eventually become as rigid as any in the world.

It is not too late to reverse this trend; and the findings of *A Study of Schooling* show us where to begin: with policy decisions to replace our present systems of tracking with heterogeneous grouping—across the board, in all subjects and at all grade levels.

Our findings also showed us that some things will have to change if teachers are asked to work with mixed-ability groups as a matter of course. The management techniques and pedagogical skills needed to work effectively with

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heterogeneous classes already exist. After all, not all high school classes are tracked, and many teachers have been teaching mixed-ability groups for years. So we know the kinds of things that will be needed: more diagnostic pretesting; more in-class grouping and regrouping for instruction; more variety of learning materials and activities; higher cognitive level questioning and testing; more frequent high-quality feedback.

We are all familiar with the basic principles of learning, and we all know that these kinds of teacher behaviors have been considered good pedagogy for many years. But one of the findings of *A Study of Schooling* was that good pedagogy was seldom found. At any rate, we didn’t often see good teaching techniques happening in the 525 classrooms we studied. Readers must decide for themselves if this is true of the schools with which they are familiar.

Using Pretests

We found the teachers in our sample using very little in the way of diagnostic testing. This was a part of our larger finding that efforts at individualization were almost nonexistent in the high schools we studied. If we are genuinely serious about teaching each child as effectively as possible, however, a new school year, a new semester, or a new unit of study should begin with some form of pretest to determine what the students already know as well as areas in which their knowledge or their skills are weak. The class time spent—whether one day or several—is really time saved in the long run, since the chances of having to reteach what students already know (or, for that matter, introducing something for which they’re not yet ready) are greatly diminished.

Pretesting doesn’t have to be a complicated process. Existing instruments can be used. On the first few days of class, for example, several different post-tests from the previous year might be administered, in order to determine how much the students retained over the summer, and which skills might need reviewing—or even reteaching.

Another approach would be to give several of the post-tests for that course or unit on the first day of the course or unit. This should show how many students already know some of what the teacher had planned to introduce as new content. If a few students already have more advanced knowledge or skills, they

might form one of the natural in-class groupings for which different learning activities would be planned.

Being able to express themselves clearly in writing is a weak area for many high school students, and this should be of concern to teachers of all subject areas. A useful pretest would be one simple essay question requiring a well thought-out answer. The substance of the question would deal with some aspect of the course content, whether it be math, science, social studies, language arts, French, music, art, home economics, industrial arts, or any other course. These short essays can reveal much about what students already know about the subject as well as information about their composition and thinking skills.

Teachers will be able to envision other useful ways of getting information about what students already know—or do not know. We all need to think in terms of pretesting as the natural starting point for planning and teaching.

Managing Small Groups

Students, like all of us, get set in their ways. Once the school year is under way, trying to get a class that is accustomed to frontal teaching to begin working cooperatively in small groups may be difficult. However, if small-group processes are established as the norm right from the first day of class, students can adjust to that way of doing things as easily as they can to any other. The teacher must provide a clear explanation of the expectations and consistent reinforcement of the desired new behaviors. I have seen 2nd graders quietly going about their business in small-group (sometimes called multi-task) settings—some getting out their folders, some listening to a tape, some working in their books, some having a skill session with the teacher, some helping each other with an assignment—and I see no reason to doubt that teenagers can master these behaviors just as well as eight-year-olds. We do know that the high school students in our sample said that they *liked* working in small groups—but did not do so very often.

Such adjustments may well be more difficult for teachers than for students, given the traditional patterns of classroom management we found to exist almost universally in the schools we studied. Starting the school year with a classroom that is divided into learning

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stations, mastering a management system for keeping track of student work, and learning to work with students individually and in small groups—all of these would involve un-learning and re-learning. A lot of self-confidence and a certain amount of willingness to risk is necessary if a teacher is to venture into these unfamiliar waters.

Colleges of education could make a real contribution by training prospective teachers to manage the multi-task classroom and by placing student teachers in schools where they will be encouraged to practice the skills they have learned. Unfortunately, the instructional mode in the college classroom is also traditional. The effect on prospective teachers is disconcerting: they are told to do something different but are not shown *how* it can, in fact, be done. Really effective use of small group teaching methods must be demonstrated by professors of education if the “I teach as I was taught” cycle is ever to be broken.

Working with Mixed-Ability Classes

Having mastered the use of pretests and the management of small groups, a teacher should be well-equipped with the skills and the confidence to teach mixed-ability classes. In the future, teachers will be expected to work with a wider range of students. The mainstreaming of students with learning disabilities contributes to this increasing heterogeneity. So does the cultural diversity resulting from the influx of immigrants and refugees from South and Central America and Southeast Asia. Some southern California school districts now have as high as 80 percent non-English-speaking student populations. These students, who may be very bright indeed, are set back by having to learn a new language and a new culture all at once, not to mention coping with the emotional adjustment to being uprooted from a familiar environment and set down in an alien one. Such youngsters obviously need special help. Lock-step curricula, based on a single syllabus, will no longer meet all our needs. A perceptual shift and a related change of attitude will be required: a myth of the teachably homogeneous group will have to be laid to rest once and for all.

Using a Wider Variety of Learning Materials and Activities

A Study of Schooling's findings revealed

a rather meager array of learning materials (mostly textbooks and worksheets) and activities (mostly listening to the teacher and writing answers to questions) being used in the 525 high school classrooms we studied. Teachers generally agreed that many other kinds of materials and activities would be useful for student learning, but told us that they didn't use them.

Limited budgets no doubt affect the purchase and use of good supplementary materials such as newspapers, magazines, learning kits, and educational games. Cumbersome borrowing procedures sometimes limit the use of audiovisual materials—for example, in some school districts it is necessary for teachers to order films from the district film library months ahead of time. Unless the teacher has kept the class on a rigid schedule, when the film arrives it may or may not be pertinent to what is then being studied. Many good teachers, I suspect, forego the use of film in their classes for this reason.

Force of habit may be another reason why such a limited range of materials and activities were used in the classes we studied. It seldom occurs to book selection committees, evidently, to order ten copies of three different books instead of 30 copies of one book. If the syllabus requires a unit on plant photosynthesis, for example, or the voyages of discovery, it is most common to find all students using the same book on the subject, and very uncommon to find groups of students reading different books on the same subject (the different books might be written at varying reading difficulty levels, or might offer alternative viewpoints on the topic). It costs little more to purchase three sets of ten than one set of 30, but force of habit interferes so that most of us don't even recognize book-ordering procedures as an opportunity to get a wider array of learning materials into the classroom.

A third reason why many teachers do not use some kinds of materials and activities may simply be that they don't know how: in their college training, and subsequent inservice, they aren't taught how to use videotape as a teaching/learning tool. They aren't taught how to use computer games in their subject areas; never find out how simple it can be to arrange for a guest speaker; never learn *how* to introduce students to role-playing. In the absence of know-how



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and the confidence that goes with it, teachers, like the rest of us, generally stick to what’s familiar.

Finally, of course, there’s the fear of losing control of the class. I suspect that this fear lies behind the reluctance of many teachers to allow students to plan some of their own learning activities. As a result, skits, debates, simulations, and other *active* activities are fairly rare in high school classrooms.

To find explanations for the narrow range of materials and activities used in our schools is not to excuse the situation. Finding ways to widen that narrow range would, however, be a worthy challenge.

Asking More Open-Ended Questions

We found a striking absence of open-ended questions in the classrooms we studied. For some reason, asking such questions doesn’t come easily to most high school teachers. I suspect it may be because, to a teacher, waiting for the students to think and then to articulate their thought feels like a pause or a drop in the momentum of the class. There seems to be an almost instinctive drive to keep things moving, and an anxiety that if a pause lasts too long, the class may get out of control.

There is also the element of unpredictability that goes with open-ended questions. What will students say? Will I be able to respond adequately? What if one asks me a question in return, and I don’t know the answer? What if one raises a touchy topic?

Asking direct, or “closed” questions—questions to which there is one right answer—is a way of keeping things moving *and* avoiding unpredictable incidents at the same time. Of all the thousands of FMI (Five-Minute Interaction) frames coded during the observation of our 525 high school classrooms, slightly over 5 percent of them were direct questions asked by the teacher. Just *one-half of 1 percent* of them were open questions. On the other hand, over 28 percent of them were explanation or instruction. In other words, *telling* was something teachers did often, *asking* of any kind was less frequent, and open questions were practically nonexistent.²

Educators have known for a long time that learning is both more meaningful and more likely to be permanent when the learner has an opportunity to make

it his or her own through both active involvement and reflection. Parroting back memorized answers isn’t real learning and it certainly isn’t *education* in the original sense of the term—a “drawing-out” of comprehension and understanding.

We don’t always practice what we know to be sound pedagogy, however, and open questions are an excellent example of this. Nor is much time spent, in teacher preparation programs, on developing this skill. I believe, however, that it *can* be developed. If teachers practice open questioning techniques until they feel comfortable with them, and if, at the same time, they can come to understand the pressures—both situational and sociopolitical—which tend to *discourage* use of open questions in the classroom, they should be well-equipped to add this teaching technique to their repertoires.

An Expanded Concept of Testing

We all learned in our educational psychology courses that learning is likely to be more permanent and meaningful if appropriate feedback is received quickly. The following scenario could become common practice in the years ahead: a class takes a test on, say, a Tuesday. Answers to the objective part are entered by the students on computer-scorable answer sheets, while answers to the essay questions are done on regular notebook paper. The teacher collects all the tests, turning the computer-scorable answer sheets in to the school or district computer center with appropriately filled out programming cards, and taking the essay questions home. That evening, time formerly spent on hand-scoring objective tests can be devoted to reading and responding to the essay questions. On Wednesday or Thursday, when students’ grades from both sections of the test have been entered in the grade book, the test results can be given back to the students and discussed in class. The rapidity of computer scoring plus the use of more essay questions means that students will likely be getting more feedback, more rapidly, than ever before.

But this emphasis on increasing the amount of feedback and decreasing the turn-around time needed for grading tests is only one side of the evaluation issue. More important, surely is the potential for improving the *quality* of

evaluation itself, through the use of more essay questions than are now commonly used by teachers. These are rarely used because there isn't time left to read them carefully enough after the "main part" of the test—the objective items—has been scored. But in the future, if a machine is scoring the objective questions, the teacher can concentrate on the essays.

Many, though not all, essay questions require a student to use higher-level cognitive skills: analysis, synthesis, and evaluation. They require that students find their own words for their thoughts and ideas. In the 13 high schools we studied, students reported that they *seldom* were asked to describe what they were learning in their own words. This was true in all subject areas. We also saw that objective tests predominated, and essay question tests were rarely used. Thus, the students in our sample were getting lots of practice in recalling information, but very little in actually thinking and explaining.

Increased Commitment

These are only a few of the guidelines for improved teaching that emerged from the data of *A Study of Schooling*. They are, it seems to me, the skill areas most directly related to successful teaching in the mixed-ability classroom. None of them are beyond our grasp. None of them are beyond the reach of the many dedicated and conscientious teachers we met in the course of our research—*given adequate support*, that is. There's been a lot of talk in the past year about what changes ought to happen in schools; this article makes its own contribution to that national debate. But we must never lose sight of the fact that simply identifying desired improvement does not cause it to happen. It is essential that we make a commitment to provide the necessary support systems for teachers. In fact, in some respects, it may even be necessary to alter the circumstances of teaching in some fundamental ways.³ For example, if we are going to ask teachers to work with un-

tracked classes, we must provide appropriate financial, material, and emotional support as well as high-quality inservice sessions, designed in a very practical and realistic way, to help them acquire the necessary skills—the ones I have discussed here for a start. We should also give serious thought to changing the teacher's work load: I agree with the Carnegie Report, which proposes that henceforth we not require our teachers to teach more than four classes in a six-period day, with one period for preparation and one period for student conferences, tutoring sessions, and so forth.⁴

A Study of Schooling's findings show that—if we are to assume that our 13 high schools were fairly typical—high schools haven't really changed very much in the past 30 years or so. At least, the ones we studied were very much like the one I attended in the 1950s. As an institution, the American high school is stable nearly to the point of inertia. I have my doubts, therefore, if so fundamental a change as I am proposing—deliberate policies of heterogeneous, instead of homogeneous, grouping—will ever "catch on." Nevertheless, I believe such policies to be both educationally sound and socially desirable. Furthermore, we *could* do it if we chose to. We know how to make educational change happen, and we know the barriers that stand in the way of change.⁵ All we need now is a critical mass of deeply committed people. □



³Jeannie Oakes, "A Question of Access: Tracking and Curriculum Differentiation in a National Sample of English and Mathematics Classes," *Study of Schooling Technical Report No. 24*. ERIC Clearinghouse on Teacher Education, 1981.

⁴Kenneth A. Sirotnik, "What You See is What You Get: A Summary of Observations in Over 1000 Elementary and Secondary Classrooms," *Study of Schooling Technical Report No. 29*. ERIC Clearinghouse on Teacher Education, 1981.

⁵Larry Cuban, "Persistent Instruction: The High School Classroom, 1900-1980," *Phi Delta Kappan* (October 1982): 113-118.

⁶Ernest Bover, *High School* (New York: Harper and Row, 1983).

⁷Kenneth A. Tye, "Changing Our Schools: The Realities," *Study of Schooling Technical Report No. 30*. ERIC Clearinghouse on Teacher Education, 1981.

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