CHAPTER TWO

INDIVIDUALIZATION, INTERACTION, AND INTEGRATION

From the experience of many teachers in many places, we've concluded that learners must have three things for learning to use language well—individualization, interaction, and integration. Together these three I's constitute an effective school language program. They also define *student-centered* in a triple way. A student-centered curriculum

1. teaches each learner to select and sequence his own activities and materials (individualization);
2. arranges for students to center on and teach each other (interaction);
3. interweaves all symbolized and symbolizing subjects so that the student can effectively synthesize knowledge structures in his own mind (integration).

Discussion of the three I's will outline the main methods of this curriculum, and much of this book will elaborate details of the methods.

INDIVIDUALIZATION

Learning language is *personal.* We start learning it in the first year of life within the family circle, and for the rest of our lives it permeates everything we feel, think, and do. It is intimately connected to our individuality. Because individuals vary a great deal, we must expect them to go about learning the specifics of language in very different ways.

■ VARIATION

Individual variation is no doubt the toughest fact of life in the classroom. If students were all ready to learn to read and write the same things at the same time in the same way, some major problems would dissolve overnight. But individuals vary enormously across many different dimensions, even in so-called homogeneous groups. In actual fact, every class is heterogeneous.

People vary because of two main human givens—group background and individual makeup. They come from different racial and ethnic communities, where they may have learned first a different language than English or may have grown up speaking a nonstandard dialect. In any case, they will have inherited the language habits of a particular social and economic class. Groups vary in how much they use language for social communion, for sport, for problem-solving, and for intellectual analysis. Group attitudes toward language vary from contempt to worship.

Each person has learned the same words in different connections and has private as well as public meanings for them. Each has a different notion about what language, especially written language, is worth and what it can do for him. Youngsters the same age want to read very different things, and any one class may have a spread of reading maturity ranging over six to ten years.

Personal learning styles have dominances toward the physical, the emotional, the intellectual, or the intuitive. Some individuals gravitate toward visual media, some toward auditory, some toward manipulatory, and some toward the kinesthetic (the body itself as medium). Some learn better from peers, some from elders, some from the same sex, some from the other sex, some from certain personality types, and so on.

Another critical variation in individuals is *timing*. People not only differ in *how* they learn the same things but in *when* they can or want to learn them. Something that may seem uninteresting or impossible to a child at one time suddenly seizes him and is easily learned when it comes up in another connection. Such right connections are the triggers of learning and often have nothing to do with child development, the predictable growth from one level of difficulty into the next. These connections are simply personal, which makes them unpredictable.

The longer youngsters have been in school, the more they vary. They know different facts, have read different books, misspell different words, have mastered different vocabulary and sentence structures, and have had different writing experiences. Families move a lot in the United States, so a locally standardized curriculum can't control this. We can try to standardize more on a national scale, but eradicating differences not only goes obviously in the wrong direction for learning but also violates the basis of a free society.

■ THE POWER TO CHOOSE

Accommodating individual variation is only part of true individualization. The other part concerns *will*. Will is the energy that drives learning. It is personal force taking the direction of some intent. If it is lined up behind an activity, it will sooner or later realize itself even if handicapped by bad circumstances. If it is missing, no approach seems to work, and teachers are forever shopping among methods and materials and asking, "How can I motivate so-and-so to do such-and-such?" Asking the question at all shows that the learner has not been allowed to exercise his will. (Motivate should not be a transitive verb, for it makes no sense to speak of someone motivating somebody else.)

So individualization means not only accommodating differences in learners but allowing the individual to make decisions about how he is to spend his time. In other words, if other people or programmed materials habitually make the deci-

sions for him, he doesn't take on the responsibility for his own education and put his will behind his efforts. Results then are poor, and educators may decide to program his schedule even more rigorously. The problem is that he feels he doesn't belong to himself and takes the attitude that since "they" want me to read, let them worry about it. As soon as others want the results of learning more than the learner, the game is over. Even if a youngster means to comply with the arbitrary tasks others assign him, he may sabotage his own efforts unconsciously. Personal integrity must be preserved by whatever means.

The argument against student choice is usually that youngsters don't know what there is to choose from or how to make wise decisions. This is truer than it should be because schools seldom teach students to choose. The longer a student has been in school the harder it often is to help him make decisions. He may be conditioned to obey, not to exercise his will and make decisions. He may even resist doing what he wants to do, because it is so painful to decide. But to use crippling conditioning as an argument for further infantilizing of students compounds the problem and fulfills its own prophecy. The point is that decision-making is the very heart of education. It can occur only from practice in making daily decisions about how to spend one's time. This is what exercises the will so that motivation ceases to be a problem and activities succeed.

It is the essence of the school's job to show learners what there is to choose from and to give them every opportunity to understand how wise decisions are in fact made. Personal choice is at the center, not only so that the learner cares about what he is doing, but so that good judgment will develop—whether the option is which book to turn to next, which activity to select, which medium to say something in, whom to ask for help, which phrasing to express an idea in, or which way to interpret a line of poetry.

But personal choice does not operate in a vacuum; in school or outside, it's influenced by peers, elders, the environmental array, and intrinsic connections among things and actions. Thus, the student-centered curriculum is never "permissive" or "unstructured." It is not based on some empty and faddish notion of "doing your own thing." Any individual anywhere is always a force in a field of other forces and very hard put indeed to separate his actions from those of others.

Learning to operate a language simply demands constant choosing, and if students can't make decisions, they will fail. From the lowest to the highest levels of language, ability depends on selection of some sort or another. Recognizing oral words in print and transcribing speech to print are choosing, that is, choosing which sounds or spellings or punctuation marks are correct for a given situation. Comprehending and composing are choosing—how to take this, how to put that. The mind must be active and questioning. It must be aware of alternatives and of what difference it will make to select this rather than that. There is more than one spelling of the long *a* sound, more than one meaning of many words, and more than one way to cast an idea.

Furthermore, the options go even deeper. People have choices about what to perceive and what to value. These choices underlie their language choices. Knowledge-making takes place throughout the whole of human experience. Our behavior is very dependent on our information, on what we think is so, and on what we think the meaning of something is. The job of schools is to open for the young the array of options among what can be seen, what can be made of what can be seen, and what, consequently, can be done. Subtract choice from behavior

and you subtract it from perception, thought, and speech as well, because these all operate in circular continuity. Don't expect youngsters to learn to think critically and creatively if you're not willing to grant decision-making in daily activity. Exercise of the will and an active intelligence strengthen with habit and go together.

■ NOT ONE BUT MANY STRUCTURES

One may fear that when the teacher steps out of the "nervous host or hostess" role, the classroom becomes unstructured. Nothing can be "unstructured." When we use that word, we mean that we don't see in what we are observing a structure that we recognize or expect or want. Disorder is a structure we don't like. Preschool prattle, for example, does not lack structure; we just don't know what it is, not at least until we have lived with the prattle a while (like a psychoanalyst listening daily to his patient's free associations and gradually picking up patterns). A bystander observing a truly individualized classroom in action may not at first know what each student is doing, what he has been doing, and what structuring and restructuring is going on within him, but a teacher coaching and counseling daily in small groups can see the individual patterns of those students as they select and sequence different activities accomplishing the same general goals.

A classroom where all students are doing the same thing typically doesn't have *enough* structure, in the sense of enough structure*s*. One lesson plan for all each day, one sequence for all each year—that is not to structure *more*; that is simply to let a single structure monopolize the learning field. This monopoly prevents individualization and makes it difficult for learners to develop judgment, which requires that they be structur*ing* in school, not structure*d* by school. Structuring is choosing. Judgment is choosing. Comprehending, composing, making sense of the world—these are structuring. For one thing, we can't *stop* a child from structuring. The wisest choice for educators to make is to place student structuring at the center of school life. School should be harder and more fun.

Take, for example, the child who wants to find out how baby turtles are born. He's not likely to cast his objective in the learning terms that schools need to monitor their operation, but he does have an objective. To reach it, he structures his next activities: he may consult an encyclopedia, look in the library, observe nature, or interview someone who knows. If we define our goals broadly enough, as number 2 on page 16, "to gain access to all sources of information," then we can recognize the student's structuring as valid for his own learning without imposing the same structure on all students. The others will be able to progress toward the same goal through different structuring. If we help each student structure learning according to his needs as influenced by a yeasty classroom environment, then individualization can take place naturally, and we can translate his activities into our learning goals for the purposes of counseling and evaluating.

It should be clear that truly individualizing means helping each student build his own curriculum day by day. Most uses of the term *individualization* are trivial and duck the issue. Individualizing is much talked about and seldom done. Most teachers know it is necessary and want to feel they are doing it, but very few know how, in conventional circumstances at least. It's not hard to understand the difficulty: it's just hard to face it. Honest individualizing requires nothing less than abandoning one lesson plan for all each day and one sequence for all each year. It means planning for the unpredictable, because individuals will not only be

going different ways, they will do so in patterns of decision you may influence but may not predetermine. Different structuring by individual students does not lead to undisciplined classes. Students who are making choices are *less* likely to cause disruption, not more.

■ SEQUENCING

Curriculum planning has assumed that specific sequences can apply to all students. What is the sense of trying to predict the right sequence of reading matter and the right sequence of writing for some mythical third-grade or tenth-grade class when you're certain to be wrong for the majority of its members? The kinds of talking, reading, and writing that twenty to forty youngsters of the same age are capable of and ready for range over six to ten years of any regular school sequence. This is a tough truth, because it frustrates any efforts to write a single sequence for all students so specific as to span a period as lengthy as even a year. The concept of "grade" levels thus remains a severe obstacle to curriculum development because it implies a similar learning advance for all students for each year. One sequence for all is possible but only over a much longer span of time and only in a general way.

It is stages, not ages, that are important for sequence. Trying to anchor stages to grades or ages only creates illusion. Different students pass through stages at different chronological times. Even the body, mind, and emotions of a single person do not always grow in step with each other. What may hold for different people is the *order*, regardless of the timing. So growth descriptions can only say when some learning will occur in relation to when other learning occurs for the same individual. Even graded classrooms necessarily throw together people undergoing different stages of physical, social, or mental development. This mixture is actually good for learning, because people mature faster when in contact with others more advanced. They also grow in language as they attempt to teach what they know to those less advanced. So efforts to segregate students by maturity level are not only futile but ill-advised.

Virtually all commercial learning materials pay only lip service at most to individualization though they may bandy the term about a great deal. A packaged curriculum can hardly exist as such and still allow for personal differences, because its lessons or activities have to be conceived and sequenced on assumptions about some generic student they are aimed at. Textbooks and workbooks constitute the most rigid format. Computer programs can allow for individual differences when menus are set up like a set of unsequenced activity cards that students can route themselves among at will. But schools will have to push for self-sequencing software or create it themselves.

When school people talk about sequence, it is almost always *group* sequence that is understood. What chain of activities will be right for students of such-and-such age or scoring ability or maturity level to go through together? But to improve language education we have to start thinking of sequence as an individual matter. What sort of activities would this learner most benefit from next? That key question cannot be answered before the year starts or before the child walks into the room. Or even the week before. It is a day-to-day question for each learner. That may sound difficult, but nothing is more difficult than trying to fit a roomful of youngsters to the Procrustean bed of a single prepackaged sequence. Besides, school should be harder and more fun for teachers as well as for students.

■ MAJOR MEANS OF INDIVIDUALIZING

In addition to the other two I's themselves, individualization requires (1) the widest possible array of options to choose from, (2) some way to learn how to make good choices, and (3) some way of getting personal tutoring and counseling.

MAXIMUM ACCESSIBILITY

In order for students to put together unpredictable language courses while interacting with others doing the same, it is essential to allow each student to gain access at any time to any activity, book, person, medium, material, and method. Let's call this the principle of maximum accessibility. Different schools and teachers will approximate the ideal more or less, depending on many local circumstances. Accessibility may be gained by various kinds of pooling—pooling students, teachers, materials, time, and space. Certain kinds of team teaching and some building arrangements such as "pods" of rooms can help. Scheduling language in the same time block with other subjects permits pooling. So does allowing students to pass from one room to another to get to certain material or human resources.

But learners need far more mixing across a broad range of ages. In segregating students by grades, schools have unwittingly broken up what is perhaps the most powerful kind of learning—rippling. Rippling is the informal passing down of knowledge and skills from the more experienced to the less experienced in an unceasing wave so that people of all ages are at once teacher and taught. This can be effected for language learning by multi-age partnering and grouping within a school or across schools but also by bringing into schools various aides or visitors. For *maximum* accessibility, however, learners need to go out of school as well—to visit and interview, research and apprentice. This permits full participation in the ripple effect. Public education is moving more and more toward using the whole community for a classroom.

A CHARTING AND COUNSELING SYSTEM

A student who has access to many possible activities and resources must have some way to learn to make good choices among them. He needs to keep track of what he's doing and of what he still needs so that the teacher can help him and he can learn more about helping himself. The idea is for teacher and student to chart the past together so that they can plan the future. The student keeps some kind of record of which activities, materials, and people he has worked with. Periodically, the teacher looks at this and talks it over with the student, translating his record into the objectives for discourse and literacy and making suggestions for coverage. Thus a teacher might say, "Most of your work so far has been in reading. I think you should try more writing now." Or, "You've been reading for a long time in adventure and mystery stories. I think you would enjoy some science fiction and some sports stories." Or the counsel might be to do certain activities to improve spelling or punctuation. See page 248 for details about charting and counseling.

A one-to-one relationship with individual students seems an unheard-of luxury in a conventional classroom. To believe it, you have to realize that what usually prevents this is the traditional emcee or host role of the teacher, which ties you down to presenting lessons to the whole class or to one subgroup at a time. When students are all doing the same activity at the same time under your direction, you

are never free to work one-to-one, whereas real individualization frees you to give attention to small working parties and individuals. Important changes in management must free teacher as well as student, for students learning how to take over their own learning will need more personal help than those just slogging their way through a cut-and-dried sequence. When free to circulate, you can closely observe individuals daily and feel confident of being able to offer good counsel when it's needed.

COACHING

The other major part of the one-to-one relating now opened up is coaching. You can listen to a student read aloud to you and point out things to work on. Or you can read with him something he has written and offer your responses. You can show individuals how to diagnose and correct their own spelling and punctuation errors. As students become truly involved in activities they have chosen, they invite advice because they care about results and come to trust you as a real coach who helps them achieve their aims instead of merely judging final products. During rehearsal of a reading or preparation of some media presentation you can coach them on technique. You can sit in on their discussions and improvisations and writing workshops and feed back to them what you think they are doing and what you think alternatives might be.

The beauty of all this is that the more self-directing you help them become, the freer you are to counsel and coach them to higher realms of language learning. A common misunderstanding about self-directed individualization and peer interaction is that the teacher becomes suddenly bereft of function. Letting students choose and letting them interact requires a great deal of skill and work from the teacher. The difference is that you commonly work with small groups and individuals rather than with a whole class at once. Coaching, counseling, consulting are really what make education work. They're precisely the roles that teachers have always wanted but have seldom found a way to arrange for.

Individual variation is not just something to put up with. It is something to value. The fact is that people learn from their differences, whereas their similarity merely sets up the possibility of their learning from each other. Having to communicate across differences in style, attitude, knowledge, point of view, dialect, and so on develops all aspects of thought and language, from vocabulary, grammar, and pronunciation to clarity, comprehension, and intellectual sophistication. The exploitation of differences, then, is the bridge between individualization and the second concept, interaction.

INTERACTION

Learning language is *social*, because language is social in origin and in purpose. It is learned through people in order to communicate with people. Like the personal nature of language, this is an inescapable fact that often becomes invisible for the very reason that it's so obvious. It is all well and good to look at mature reading and writing and say that those are solo activities. But reading and writing entirely on one's own represent ends, not means. Soloing rises out of collective effort. Monologue, the basic act of writing, is born of dialogue. Comprehending

what someone wrote hundreds of years ago in Greece comes about from understanding first what some contemporary is telling you face to face.

■ THE ORAL BASE

Social interaction is necessary in the classroom to develop vocal speech into an instrument of communication both for its own sake and for the sake of reading and writing. Practice in vocalizing will develop pronunciation, enunciation, fluency, confidence, and expression—all those skills usually called "speech" in school. And reading and writing can progress little further than the limits of their oral base. If a learner cannot understand something said to him, he will probably not comprehend it in a book. If he cannot say something to himself at least, he will not be able to write it. Hard pressed to teach apparently reluctant students to write, some teachers question an oral emphasis, saying, "Oh, they'll talk all right—that's not the problem." But most speech remains very undeveloped, however talkative a person may be, and until it becomes a more mature instrument of communication, many students will have difficulty reading and writing.

Like dramatic play, conversing is something the child does before he comes to school, a fact that implies two things. First, it's something that the school can build on from the outset, a familiar medium to extend and use as a substratum for reading, writing, and thinking. Second, since children learn to talk out of school, their talk within school should provide additional learning not easily acquired anywhere else.

School should be a place where children talk at least as much as outside, for fostering speech is the business of the language classroom. Too often there is the hidden inscription above the door that says, "Abandon all speech ye who enter here." The kids get the message: "Here you sit quietly and don't socialize; paperwork is what they care about except when they want you to read aloud or answer a question. Talking to other children is bad behavior." So long as talking is excluded from the curriculum and not utilized within, peer conversation can only appear as a disciplinary problem, whereas actually it can become one of the mainstays of the curriculum through processes described in *TALKING AND LISTENING* and *INFORMAL CLASSROOM DRAMA*.

Fortunately, work with one or several partners is now being recommended in all subjects, even in math and science, but unfortunately this "collaborative learning" is often set up in such a formulaic fashion that much of the value is lost. Too much teacher control cancels the main value of it, which is the unplanned interplay of minds.

■ POOLING KNOWLEDGE

It may not be obvious how peer youngsters can learn from each other when none of them seems to know any more than his fellow students. First, as we said before, peers don't share the same knowledge and ignorance. Interaction is necessary in order to pool what kids do know, to exchange spellings, factual information, views and insights, or know-how in various skills. The value of letting kids pool what they know is obvious. What's harder to see is how unskilled readers or writers can otherwise help each other improve. They can do so in several different ways.

■ STIMULATING AND SUPPORTING EACH OTHER

Many youngsters who would never crack a book or write something alone will do so with pleasure if they have partners. Collaborators give language tasks a social incentive until the individuals get involved enough to find their own reasons for wanting to do them later alone. This gets some learners over a hump posed by fear, timidity, dependence, lack of confidence, bad previous experience, etc. Problems that would overwhelm any one student alone can be solved with partners. If not, no one of them feels like a failure, and they can more easily seek outside help together. Colleagues stimulate, complement, and sustain one's own ideas. Part of what makes this work is the sheer pleasure of socializing, but part of the trick is the reciprocal emotional support peers can give each other.

■ PLAYING GAMES OF LANGUAGE AND LOGIC

One of the best ways to sharpen logical powers and decision-making is through games, as we know from chess or even checkers. Game theory is a whole area of modern mathematics, because the strategies of games depend on combining logical steps or "moves." Card games can embody splendidly the logic of classes and hierachies. And a game context can permit focusing on substructures of the language such as sound-spellings, vocabulary, and grammar without violating communication integrity, because games frankly substitute their own rules for the sender-receiver-message relations as a basis for making decisions.

Most games are social, of course, and require students to interact. The interaction entailed in playing learning games with cards or boards accustoms players to participate in other sorts of groups that also have no adult leader, that are structured by a reading or writing task rather than by game rules and materials. It also generates a lot of very good discussion along the way as students follow directions, interpret rules, and bring out the game's possibilities.

■ SERVING AS AUDIENCE FOR EACH OTHER

In order to put their will behind what they're doing, speakers and writers must have authentic audiences, and listeners and readers must become authentic audiences. The more often outsiders such as adults or younger children can serve as audiences the better, but practicing discourse constantly requires more audiences and feedback than can be arranged with outsiders. Classmates must serve for each other. This fits an individualized classroom because if different parties are doing different things at the same time, they have reason to be interested in receiving each other's offerings. Performers can do a rehearsed reading of a text for the rest of the class. Members of a group writing together serve as audience when they exchange and read each other's papers or take turns reading them aloud. Without handy audiences for one's language productions, little reason can be found to do them, and language practice lacks the force that should drive it.

If students produce language only for the teacher, they may lack motivation or they may substitute grades and pleasing the teacher for authentic reasons to talk and write. Lack of authentic audience is in fact a major cause of school language difficulty. An authoritative adult, parental substitute, and dispenser of grades simply cannot alone suffice for audience, because he's a loaded figure

about whom youngsters have too many attitudes irrelevant to composition. Other human resources have to be called on as well, inside and outside the classroom. Interaction may be with other classes, community people, teacher aides, and so on, but must rely as a staple on classmates. This allows all students constantly to reverse roles of sender and receiver and to learn from both sides.

■ COOPERATION TO OPERATION

The *cooperation* of groups becomes internalized as the mental *operation* of individuals. Talking provides far more exercise in trying to formulate thought than actual writing does and permits speaker and listener to identify and work out communication problems together. Eventually individuals internalize the reader's needs and amend thought and speech without external aid. Similarly, performing becomes the chief means of deepening and checking reading comprehension: enacting, reading aloud, and translating reading matter into another medium become internalized so that individuals "play out" and visualize any text in their heads to actively "grasp" it when they are reading solo and silently.

Internalization works in many ways that will be detailed in later chapters. As a general process it works by imitating physical or social behavior on an inner, mental level. The developmental psychologist Jean Piaget has described how children gradually internalize concrete operations into logical operations. In this way, manipulating weights on a balancing scale prepares for "manipulating" algebraic equations. Internalizing group exchanges into individual habits of thought and speech also illustrates Piaget's concept, which was shared by Lev Vygotsky.

Members of a group begin to think and discourse separately in the same way they have done collectively. This internalization is in fact the main way everybody becomes socialized and acculturated. It may work for good or ill. If a group spends its time heaping scorn on outsiders, its members will tend to think in simple additive accumulation and to shift negative feeling onto absent scapegoats. If a group splits constantly into win-lose conflicts of teams, the thinking of its individuals will tend to dichotomize issues into simplistic either/or polarities. The first group is stuck with "and ... and," the second with "but ... but." Another group may pick up each other's ideas, images, and wit and build on them—pursuing, testing, elaborating, amending. Their process of expatiating is obviously very desirable for helping the individual to become thoughtful in both the intellectual and social senses and to think alone with more logic, imagination, and wit.

Expatiation encourages the qualifying use of "although," "if," "unless," "whenever." It alone would justify small group process, but consider too that when members of a group challenge and qualify within a sustained spirit of collaboration, this teaches the individual to entertain differing ideas and viewpoints within himself alone, without resorting to simplemindedness to keep peace of mind.

■ FEEDBACK

If we think of the main way human beings master any skill, we realize it is by practice, coaching, and trial-and-error. Think of learning to ride a bike, play a guitar, throw a ball. We practice through trials and get coached on the errors. If language arts are actions that we *learn to do* and not information that we merely *learn*, then

they aren't basically different from musical and sports skills. But how does practice cause improvement? Practice provides *feedback.*

Feedback is any information a learner receives as a result of his trial. This information usually comes from his own perception of what he has done: the bicycle falls over, the ball goes over the head of the receiver, or the guitar notes sound untrue. The learner heeds this information and adjusts his next trial accordingly, and often unconsciously. But suppose the learner can't perceive what he's doing—doesn't, for example, hear that the notes are wrong—or perceives that he has fallen short of his goal but doesn't know what adjustments to make in his action. This is where the coach comes in. He is someone who observes the learner's actions and the results and points out what the learner cannot see or figure out how to correct for himself. He is a human source of feedback who supplements the feedback from inanimate things.

But, you may say, learning to write is different from learning a physical skill. Writers manipulate symbols, not objects, and they act on the minds of other people, not on matter. Yes, indeed. But these differences do not make learning to write an exception to the general process of learning through feedback. Rather, they indicate that in learning to use language, the only kind of feedback available to us is human response.

Let's take first the case of learning to talk, which is a social activity and the base for writing. The effects of what we do cannot be known to us unless our listener responds. He may do so in a number of ways—by carrying out our directions, answering our questions, laughing, looking bored or horrified, asking for more details, arguing, and so on. Every listener becomes a kind of coach. But of course a conversation, once launched, becomes a two-way interaction in which each party is both learner and source of feedback.

Learning by heeding feedback depends on plentiful trials and accurate, timely feedback. Paramount, of course, are the quantity and quality of response a student receives to his speaking and writing and to his expression of what he understands others to mean. The teacher's job is to arrange for both trials and feedback—*to teach the students to teach each other.* This is where teacher expertise comes into play.

■ TRIAL-AND-ERROR

Trial-and-error may seem haphazard and time-consuming, but it does have an aim, and it does work. Without help, however, the individual alone may not think of all the kinds of trials that are possible, or may not always see how to learn the most from his errors. (Of course, by "errors" we mean failures of vision, judgment, and technique, not mere mechanics.) And if it's a social activity he is learning, like writing, then human interaction is in any case indispensable. So we have teachers to propose meaningful trials (assignments) and to arrange for a feedback that insures the maximum exploitation of error.

The teacher doesn't try to prevent the learner from making errors. He doesn't preteach the problems and solutions. The learner simply plunges into the activity, uses all his resources, makes errors where he must, and heeds the feedback. In this action-response learning, errors are valuable; they are the essential learning instrument. They are not despised or penalized. Inevitably, the person who is afraid to make mistakes is a retarded learner, no matter what the activity in question.

In contrast to the exploitation of error is the avoidance of error. The latter works like this: the good and bad ways of carrying out the assignment are arrayed in advance, are pretaught. Then the learner does the assignment, attempting to keep the good and bad ways in mind as he works. Next, the teacher evaluates the work according to the criteria that were laid out before the assignment was done. Even if a system of rewards and punishments is not invoked, the learner feels that errors are enemies, not friends. As a learning strategy, avoiding error is inferior to capitalizing on error. It's like the difference between looking over your shoulder and looking where you are going.

Nobody who intends to learn to do something wants to make mistakes. In that sense, avoidance of error is assumed in the motivation itself, and this is why exercise of will is critical. But if the learner is allowed to make mistakes with no other penalty than the failure to achieve his goal, then he knows why they are to be avoided and wants to find out how to correct them. Errors take on a different meaning. They do not demonstrate failure but, rather, define what is good.

■ UNDOING EGOCENTRICITY BY COMPARING

What students need is not information but awareness. A major movement of growth is toward decreasing egocentricity, which we define as assuming that others see, feel, and think the same way we do when this is not so. For examples and further discussion see *Detecting Growth in Language*. Years of analyzing language learning have convinced us that egocentricity is the biggest single cause of problems in comprehension and composition. For speaking, reading, and writing, egocentricity manifests itself in very practical ways that conventional teaching has noted in its own way but has not done much about because it has not afforded the student enough means of *comparing* his understanding of a text, or his way of saying something, or his way of seeing something, with that of another.

Believing that lack of information or advice is the cause of comprehending and composing problems may be the greatest mistake of all language teaching. A reader failing to put together all the meaning cues of a text cannot merely be *told* to do that, because he already *thinks* he is doing so. He's unaware of what he is omitting or how he is distorting or tuning out. You can score him wrong as often as you like on comprehension tests, but he will continue to misread, despite good word recognition and vocabulary, if he's unwittingly adding to and subtracting from the text. A writer failing to lead his reader, to give information in the needed order, to elaborate detail, to tie things together, to emphasize and subordinate, to put punctuation where he would if he were vocalizing, and otherwise neglecting to guide the reader with cues will never improve merely from being told to avoid these failures or from studying rules and models for good sentences. Like the egocentric reader, he *thinks* he is doing these common-sense things.

The reason conventional reading and writing programs are usually so ineffectual is that students don't learn from the dos and don'ts of prescribing and proscribing. The problem is somewhere else utterly. What they need is insight about their own outlook.

How do they get this? By constant comparison. Because the problems of composing and comprehending are problems of matching minds, the main solution to egocentricity is to do something together and compare results. A light goes

on in the head of a youngster who discovers that his peers understood a story differently from the way he did or that they don't connect two ideas that he believed everyone naturally associates. *The youngster doesn't realize that what he said or read could be taken another way.* He is unconscious of alternatives. How do we know what to assume people share and what to assume they don't?

We know people are alike to a point, but where is the cutoff? That is the information the learner needs to know. And the only way he can find it out is to try to understand or express something and heed others' reactions—to compare. Even if he decides that a whole group is wrong except himself, at least he now knows he can't assume they share his mind set. And that breaks his egocentricity. The basic *I* is not reduced, of course. Rather, to broaden understanding is to enlarge the *I* from a point to an area. The learner can stay centered, as he should, but centered in a larger field than the isolated ego.

Undoing egocentricity occurs best with peers. If students match understanding and expression with more advanced people, as happens when comprehension is tested or compositions marked, too often they just feel wrong and attribute the discrepancy to the maturity gap. This is a common way of dismissing adult responses or standards and defending against loss of self-esteem. It follows that to correct the problems they should try to figure out what the adults have in mind. But the main issue is not matching their minds to those more advanced but to those of their own maturity.

Anything a student misunderstands or expresses badly should be perceivable as such to peers. If peer consensus sides with the student—if the student and his peers misunderstand a text together or don't have trouble following what one of them has said—then you have to question whether the text is inappropriate for the group or whether the composition can, in fact, be fairly called unclear. So interaction with peers will provide the most useful comparison for breaking egocentricity. Where you as teacher help is to get them comparing and to open up alternative solutions when peers establish the mismatching. This takes you out of the negative role of judge, where you can be discounted, and puts you in the positive role of expert consultant, where you will be sought out. Make *them* judge. Constant comparison ties in with good judgment about language, because knowing one's own mind in relation to others' will guide decisions about how to put and take things.

Yet, interaction is not limited to peers. Although comparison within the peer groups proves to be of great practical importance, youngsters need to compare across age differences as well. Younger children should know what older students think and how they react. This is one good argument for arranging buddy partnering between students several years apart or for multi-age project groups. Comparison should extend to adults also in situations where older people's views are not forced on youngsters or used to judge them but are simply asserted. Youngsters really do want to know what their elders think because they want to exploit their knowledge for growing up.

Teachers, teacher aides, parents, visitors, and other community people should have occasions to influence young people who are not their own children. Nonparental adult opinion is very valuable. It helps bring to youngsters the viewpoints of the world beyond the home and the immediate peer group. Many activities suggested in later chapters, such as polling and interviewing, direct students to seek out the views of adults. Anyone can help deliver people from egocentricity, and

everybody should be used. So the wise teacher doesn't jealously guard the teaching role for himself. This merely shows insecurity. A real teacher is someone who can show people how to learn from everything and everybody.

■ SMALL-GROUP PROCESS

The best facilitator of interaction is small-group process. Most group work in conventional schooling fails to foster exchanges between peers because the group is too large or the teacher dominates. A tradition in elementary school, for example, is for the teacher to take one group aside at a time and to direct it so that all interaction occurs between the teacher and one student at a time. Meanwhile, the rest of the class is doing "seat work" or "busy work." In secondary school, teachers often lead discussion by an entire class at once, a practice that fails to allow enough participation for each student. Both procedures tie up the teacher and put off the day of self-direction.

For most effective classroom management you should shift more direction to groups and make students address their words and deeds to each other. Then when you want to coach or counsel individuals, do so one-to-one, and when you want to consult with a group, just move in and out of it. In this way all students get maximum benefit of both you and each other.

Sheer quantity of participation is a critical feature of small-group process that may be overlooked in emphasizing how peers can learn from each other's differences and from collaboration. The inborn human faculties for abstracting raw experience into orderly symbols must have huge quantities of data, as the infant has when he infers basic grammar from hearing thousands and thousands of other people's utterances and their emendations of his own utterances. School has to offer equivalent quantities of grist for a child's intellectual mill. Whether the youngster is still working on auditory and visual discrimination, spelling and punctuation, or ideas and forms, he needs numerous instances. He must have both variety and volume of intellectual and language experience. Individualizing provides much of the variety. What provides most of the volume is the high participation that small groups afford.

If learners don't process each other's work in groups, they can't gain enough experience with the language arts to become good at them. When a teacher has to process everything that's written, students can't possibly write enough. And when the teacher has to monitor and read everything the students read, they don't read nearly as much as they might. This problem of control and management of numbers keeps students from practicing sending and receiving language enough. Since large quantities of reading are the main means of acquiring correct spellings and larger vocabulary, both suffer along with the more difficult matter of learning to interpret text. With the amount of writing held down, students have little chance to practice composition, spelling, and punctuation, and consequently all those skills loom as gigantic problems for which teachers may feel they must have special methods and materials.

The only limit to how much kids can talk, read, and write in small groups is the amount of time in a day, because a teacher who only oversees the processing of talk, reading, and writing facilitates it instead of becoming a bottleneck! A high volume of practice is simply more effective in the long run than controlling the flow of language to a rate you can handle alone. Besides, your other role of

coaching and counseling counters very well any likelihood of students not getting the benefit of your expertise.

In a small group, an individual can talk more and can get more response to what he says or writes, because the group can take plenty of time for each member. He can read more because the small group he's reading with doesn't have to pace itself by the lowest common denominator of a whole class and doesn't have to hold back to accommodate the administration of a large group. The individual can also play more learning games, improvise more, and perform texts more in small groups. The give-and-take of small groups goes further faster, handles tasks more efficiently, and gets more work done. Each member is motivated to be more active because he is more involved and has more control over the direction the group takes. Eventually, each student can take advantage of the total membership of his class, for he will belong to many different groups in one year, and groups can exchange ideas and feed back to each other. And a whole class can always meet as such when it makes sense. The strategy is to take advantage of both large numbers and small focus by constant flexible groupings.

In sum, interaction furthers the main language arts goals because it exploits individual variation and employs social resources to solve what are social problems when correctly understood. Pooling knowledge, playing learning games together, stimulating and supporting each other, using each other as audience—these are all practical ways to give individuals the advantage of numbers. Internalizing, feeding back, and comparing mental sets go deeper. They are three major learning methods. By means of them we all learned to speak and to master other skills as well.

INTEGRATION

Language learning is integrative. We build interior knowledge structures as we grow, drawing on all sources and kinds of knowing. Since integrity of the organism is a biological necessity, we must always remain whole no matter how much we may change as we grow and no matter how incoherent the environment may be. A human being is made to synthesize all forms of experience into one harmoniously functioning whole. If experience is too incoherent to integrate, we may mentally or physically negate what we can't assimilate, as when some students tune out or drop out of school because they can't fit it into the rest of their life. An individual is meant to be indivisible.

Language learning is different from other school subjects. It is not a *new* subject, and it is not even a *subject.* It permeates every part of people's lives and itself constitutes a major way of making meaning. So learning language raises more clearly than other school courses the issue of integration.

■ INTEGRATING SCHOOL WITH HOME

Since people learn language outside of school and before they enter school, you should think of it as a continuity that you will try to help youngsters develop while they're passing through your hands. The best teaching strategy is to extend language learning as much as possible from what youngsters already know and can do. This is why goals should be stated as expansions of and elaborations of

language facility, and this is why the oral base is all-important.

More specifically, school must accept widely varying dialects, lifestyles, values, and cultural heritages. A student takes both home and school seriously. If they are made to conflict, he is caught in the middle and has to reject one or disguise the conflict from himself. Either choice makes for terrible education. America is and has always been a pluralistic nation made up of mixed cultures. Appreciating and accommodating differences has been a necessity from exploration and colonial times to the present assertion of minority identities. School should foster the interplay of differences so that youngsters will come to know, among other things, what other lifestyles, values, languages, and cultures there are.

Even if the school doesn't try to force a student to abandon his heritage and way of life, a student of a minority culture may find little to identify with if the books and other materials are drawn excessively from the majority culture. Or if the methods and media available to learn through don't accommodate the learning modes of his ethnic group, then the student still feels when he comes to class that he is entering a foreign land.

Much of the reading material, for example, that youngsters like to read depends for interest on the reader identifying with the figures and settings in stories. The less a youngster has been around, the harder it is for him to identify across differences of culture and life-style and language style. If someone comes from a heritage that sings and dances its poetry, he may find it very hard to get involved in silent reading of poetry followed by analysis of imagery. A classic cause of neurosis in Native Americans is said to be the conflict between their cultural tendency to collaborate and the white schools' emphasis on competition. Certainly every minority member finds himself living in two cultures at once, one at home and one at school. This is unavoidable by the very definition of being in a minority, but whether this double life enriches the student or splits him down the middle depends on whether the classroom contains enough breadth to include methods and materials he can build a bridge with.

For the dramatically increasing number of students who first learn a language other than English but are embedded in an English-language culture, the problem is naturally more acute. So in addition to suitable content and approaches they may need to use or at least sometimes hear their first language in an English context while they're becoming bilingual.

■ INTEGRATING CLASSROOMS

It should be very clear from the needs of individualization and interaction that different students must be mixed, not separated. The main way to do this is to avoid so-called tracking and ability grouping in favor of heterogeneous classes. When segregated, slower students tend to get a negative image of themselves that makes them actually perform worse than they might and advanced students get an elitist, inflated feeling. But more serious, each suffers from lack of variety and gets a limited curriculum. The fact is that few youngsters are uniformly good or bad at all the many possible language activities involved in speaking, reading, writing, and performing the whole variety of possible discourse.

Homogeneous grouping is usually based on test scores in reading comprehension and grammar or on facility with limited kinds of expository writing. But

when taught and evaluated over a broader range of language activities that include oral comprehension and oral composition, performing and improvising, and the full gamut of types of reading and writing, different students prove to be good at different things. Based on bias, homogeneity is more apparent than real. There's no evidence that ability grouping enhances long-range learning.[1]

Segregating by "ability levels" is actually designed to make feasible one lesson plan for all each day and one sequence for all each year. Crudely, it allows for variations among students only by recognizing, say, two or three levels of test achievement in a couple of high-priority areas. This actually thwarts individualization, since segregation drowns differences in a limited similarity and fails to utilize even the acknowledged differences in ability. Homogeneity, then, maintains the inefficiency of the conventional approach to classroom management and limits severely the options of teachers and students.

Grouping by test scores in a couple of kinds of language learning undoes most of the benefits that might come about from racial integration. Aside from elemental moral issues, racial integration serves the best interests of language learning for all. The youth of today's world will surely have to "speak each other's language" in more ways than one. Not only must they understand each other's life-styles and viewpoints, but they should annex each other's dialects and language styles and literature.

Many adults worry that mixing their pupils or offspring with children who speak little English or nonstandard English will "corrupt" their language. This is a needless fear, for neither party loses the language learned in the family. Youngsters exposed to peers of other cultures and languages simply know more than youngsters restricted to their own kind. Again, it is difference that teaches, not similarity. Having to talk across language differences, to accommodate differences in thought and speech, is excellent education. And growing together will certainly ensure domestic tranquillity better than growing apart.

Children of minority groups usually do not score as high on standardized achievement tests as middle-class white children for a number of reasons. English may be their second language, whereas the exams test English. They may speak a nonstandard dialect, whereas most reading matter is written in standard dialect, and the grammar tested for is that of standard dialect. In fact, "errors" in grammar are almost by definition deviations from standard or majority usage. Fewer minority families have enough money to belong to the middle class and consequently benefit less from the "hidden curriculum" of the middle class—the at-home language experiences such as being read to and talked with a lot by parents who are well educated. Middle-class children often learn to read at home, not at school, and they usually acquire from home many of the words, concepts, and sentence structures they might encounter on reading comprehension tests.

Poor or minority families often provide a very rich language environment at home too, but its assets are not the sort schools usually test for. Their language is mostly oral, but ability grouping usually depends on paper and pencil tests of literacy. Furthermore, their language may be directed more toward verbal games

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[1] See Jeannie Oakes, "Keeping Track: The Policy and Practice of Curriculum Inequality," *Phi Delta Kappan*, 68 (September 1986): 12-17.

than analyzing, more toward poetic figures of speech than toward higher abstractions. Again, school tests do not attempt to measure what poor or minority children may do best. Considering all these factors, we can't avoid concluding that so-called ability grouping works specifically against racial integration as well as against more general integration of language resources.

It's unfair to say that "ability" grouping was designed to sabotage racial integration. Clearly, it has been a mainstay of conventional teaching even in all-white schools for decades. In fact, we think most teachers really believe in racial integration but believe also in tracking. One reason they don't see the contradiction in their beliefs is that racial integration creates problems of pluralism for them that conventional classroom organization and methods are impotent to solve. To say that ability grouping is a cop-out on racial integration is merely to say it is a cop-out on all handling of differences.

Students of like interest or ability should sometimes group together. This is allowed for in the freedom to form any kind of subgroups—homogeneous or otherwise—within the total heterogeneous group. If you envision small working parties forming, breaking up when finished with a book or other activity, and reforming on some other basis for some other activity, then you can see how it's possible to have the best of both worlds—to enjoy at once the advantages of both similarity and difference. There's no reason to settle for less.

■ INTEGRATING SUBJECTS

Language is not a subject like history, science, geography, or social studies, because it comprises all these. It is a symbol system. It is the medium into which these other subjects are cast. So we must distinguish between languages and contents, symbolizer and symbolized.

The real kinship is between English and math, because both are languages by means of which we symbolize experience, math being a special notation that purifies and extends ordinary language. This kinship is rightly expressed in the three R's. The native language casts experience qualitatively, in words, whereas mathematical symbols encode it quantitatively, in numbers. As with other languages, we can translate between math and English. We can read equations out loud in English, for example, even though none of the symbols are written in English, and sometimes when no equivalent symbol exists for a concept in math we have to talk around it until we explain it, just as we have to do for some Russian or Chinese expressions. And math, like English, can be applied to any subject matter. So a language is not just one more garment hanging among others on a rack. It's the weaving principle by which garments come into existence. This makes it the warp and woof of the whole discursive curriculum.

CONTENT

But what does integrating all "subjects" through language amount to practically? First, it means including as part of language arts materials many reading selections, periodicals, games, and visuals that draw subject matter from history and the behavioral and physical sciences. This does not have to be "presented" but merely made available within an individualization system. Without such content all goal areas of discourse cannot be covered and all students cannot find what

they need to read, write, and talk about. The movements called "writing across the curriculum," "language across the curriculum," or "reading in the content areas" are welcome acknowledgment of this truth. But as all of the academic disciplines undertake to reform how they are taught, they find themselves reaching out to each other to an extent that will go well beyond this movement "across the curriculum," which was initiated by language arts teachers as they came to realize that teaching the universe of discourse has no content limits.

One thing all the academic subjects share is discourse: they are all conceptualized and verbalized into language. Math extends ordinary language into higher abstraction. The other subjects are not languages but content areas of empirical knowledge. Actually they differ not only in what they are about but in the level of abstraction to which their matter is symbolized. Thus history tells *what happened*, past fact. It is less abstract than science, which says *what happens*, general fact. Abstracting further from either of these produces higher-level generalizations and theories about people and things that carry history and science into philosophy.

As different topics, these different abstractive levels of discourse can be subdivided, but these topics just specialize *what happened* and *what happens* into more local focuses such as the history of democratic government or forms of life versus forms of inanimate matter. Because social studies and science grow as children grow, biology, physics, chemistry, astronomy, archaeology, government, geography, economics, psychology, sociology, anthropology must be open to learners every year of school.

Any subject is a good one if youngsters want to talk or read or write about it. English is about all these subjects as well as literature. Truly individualized learning cannot, in fact, take place without the choice that access to the whole universe of discourse provides. The language teacher can best help students become familiar with and distinguish among various sorts of discourse but need not be expert in the content of other subjects. Students learning to operate their language must learn to send and receive any sort of message, regardless of abstraction level or mode of discourse (such as fictional or factual). Furthermore, comparing one level or mode with another brings out the uniqueness of each. It is with subjects as with students: differences teach.

PROCESS

The social studies and science are not just inherited information. They are also processes or "disciplines" by means of which people today continue to create information and ideas in those fields. These data-gathering and knowledge-making processes are similar across different subject areas. Both behavioral and physical scientists, for example, have to observe a great deal and take field or lab notes. They may have to set up special situations to observe, which we call experiments. They may have to collate others' observations with their own and hence have to poll, interview, and research previous literature on the subject. Then by reasoning, which may include mathematical thinking, they will have to pull all this together into some form of exposition or argumentation. Charting, graphing, labeling, and captioning may figure into any of these.

There isn't one of these processes that should not be part and parcel of the language arts curriculum. In fact, if youngsters don't do these same activities themselves, they will have no opportunity to produce or even understand much discourse in the range of True Stories, Information, and Ideas. (Plagiarizing

doesn't count!) In short, practicing the roles of sender and receiver means, among other things, role-playing the professionals—historian, scientist, and philosopher, as well as literary artist.

Certain realistic projects naturally integrate both the contents of different subjects and the common processes of making knowledges. Let's take the example of a consumer study of audiotapes. It can entail reading and shopping, computing price comparisons by some measures of dollar efficiency, analyzing the tapes physically, polling people for audiotape-buying habits, making charts and diagrams, taking photos, reading relevant information, discussing findings, writing up the data and conclusions, and presenting results as an illustrated book or a slide show with narration or a labeled and captioned exhibit. Such interweaving of processes and subject areas allows each subactivity to act as lead-in or outcome of another and hence to bring each to bear on all. Effects are far more powerful than when these activities are singled out and separately scheduled. Organizing around projects will do it, but we must change our notions of where boundaries are.

■ INTEGRATING LANGUAGE ARTS WITH OTHER ARTS AND MEDIA

A sad result of riding herd on " basics skills" has been to devaluate the arts and even eliminate them from schools. How this strategy defeated itself has become apparent, and the arts are recovering. We cannot pluck language out and place it under glass. It is integrally related not only to the discursive subjects but also to a host of *nonverbal* activities that set it up, accompany it, or follow it up. Think of some sports, lively arts, and graphic media. Dance or pantomime may only parallel language by literally *embodying* experience, but even when totally disjoined from language, such alternative forms teach about language precisely by doing what it does but differently. From song lyrics to film narrations, most arts and media connect rather directly with language either by complementing or competing with it. Many students need these multisensory ties in order to find forms of language to practice that fit their individual learning modalities, in keeping with the now well accepted notion of multiple intelligences.

COMPOSITION

Besides being expressive and communicative, the arts share a common process—composition. Creating a poem or story, a dance, a piece of music, a film, a painting, or a sculpture always consists of putting together some elements of the medium into original relationships. Selecting and patterning material are similar processes whether one is working with words, bodies, images, tones, or masses.

The classic elements of verbal composition—selection, organization, emphasis, unity—that figure so much in problems of writing and reading are not peculiar to the language arts. By practicing the lively arts and graphic arts students can work with the same issues of composing and comprehending, and they can perceive language as sharing issues of patterning with other media (or other "semantics," as Susanne Langer calls them).

Those arts that move in time, like language, dance, music, and motion pictures, all share issues of sequence and pace. Many terms on musical scores, like "accelerando" and "crescendo," apply equally well to dance, literature, and motion pictures. Whereas the lively arts move in time, serially, the graphic arts of paint-

ing, drawing, sculpture, and still photography present their elements simultaneously. But part of the art of lively arts is to create some feeling of simultaneity while moving in time, and part of the art of graphics is to create some feeling of dynamics through the static. Thus people speak of direction, depth, rhythm, and animation in a painting or photo, and cubistic painting and sculpture get a time dimension by giving several views of the same objects. Form and pattern in composition link these arts to the language arts, as we understand from motifs or variations on a theme.

COMPREHENSION

Comprehending the nonverbal arts requires the receiver to do many of the same things he does in receiving language. He must put things together for himself in his own mind—"grasp" what is there. He must pay attention to the elements of the medium and how they have been ordered and become sensitive to the total effect that the parts create as they accumulate into a whole, by either the action of the medium moving in a sequence or by his own viewing action as he scans. He must open himself to another's composition and let all the cues work on him in combination with each other. All of this is required for reading comprehension, whether the text is a great work of art or merely a how-to-do-it set of instructions. Construing and constructing share a common root activity—making something that means something.

■ TOTAL IMMERSION

The strategy that most facilitates integration is immersion of the learner in language by leaving intact the natural relations among different language activities, different subjects, different forms, different media, and different arts. If every learner can't find for himself these multiple points of entry into language use and multiple pathways to general goals, then individualization is a hollow slogan. A classroom has to be a cornucopia of opportunities so that no matter which way he looks a student can see interesting connections among things, words, ideas, and people. The reason free choice is sure to work in a total-immersion environment is that it makes little difference what a student chooses on any one occasion. The main thing is to keep practicing language with involved care. So saturating the learner with language reinforces the strategy of going for volume and variety. This strategy is essentially what the movement now called "whole language" has come to represent.

A group fascinated by animals can track them for weeks with great interest across folk tales, fables, true memoirs, poems, encyclopedic entries, newspaper and magazine articles, statistics, charts and graphs and maps, photos, animal card games, films, and so on. At the same time, they can interweave play-acting of animals, observing and notetaking, journals, keeping pets, telling and writing animal stories and fables, photographing and drawing and captioning, discussing, arithmetical calculation, rehearsed reading of animal stories, and so on. The secret of all this is the timely connection, and it can't be scheduled. But the constant possibility of timely connections can be arranged by making all sorts of language use available all the time.

In 1990, educators representing the arts, languages, sciences, and humanities established the Curriculum Congress for purposes of integrative reform. Like

other teachers, we in the language arts can expect increasing integration of learning domains, perhaps even some eventual fusion of what are now separate school subjects. In doing justice to these organic connections and overlaps among "subjects", this unification of learning will make schooling far more efficient and comprehensible. Student-centering has always suffered from subject-centering, as can be seen in the slump in achievement and attitude after about third grade, when schools usually start departmentalizing learning into math, language arts, social studies, science, and art. A holistic reorganization of learning will naturally center more on the learner, who alone can synthesize all this into what we call education.

■ FRAMING WORK IN WHOLE COMMUNICATION STRUCTURES

Only when people work within a complete communication structure can they authentically practice literacy, composition, and comprehension and hence profit from volume and immersion. Context governs text. This too is what is meant by "whole language." It naturally goes with centering on students, who can find meaning and motivation only in realistic speech acts and texts. The whole person needs whole discourse.

FAILURE OF THE PARTICLE APPROACH

Vocabulary drills, dissection of dummy sentences, labeling grammatical parts, and writing isolated sample paragraphs do not teach how to write. If they did, colleges would not be frantically increasing their remedial writing enrollments. Vocabulary lists actually misteach, because without context the learner has to ignore connotation, style, tone, and other aspects of good word usage in favor of absolute synonymy and abstract dictionary definitions. Words learned in context are better understood and better remembered. Similarly, practicing clause subordination or other sentence construction in a vacuum teaches students that clause subordination is somehow good for its own sake and that how one constructs a sentence can be decided apart from the logical and rhetorical demands of what one is trying to express. Neither of these inferences is true. And how can one learn to paragraph the flow of ideas when limited at the outset to a single paragraph? There is no such thing as a well-constructed paragraph when the paragraph is a fragment stripped of point and purpose or when the writer is forced to say what he has to say in only one paragraph. Faced with form for its own sake, a student rightly concludes that content is unimportant and fills the form with tripe. As for reading, many children test out on all the isolated parts—the separate sound-spellings and "reading skills"—but cannot or will not read.

When wholes are broken up and doled out to students piecemeal, it becomes an academic point as to whether students *can't* put them back together on their own or whether they simply don't care enough to try, since the approach can prevent either cognition or motivation from working.

But, you may ask, isn't it enough to surround a word with a sentence, or a sentence with a paragraph—each substructure with the one above instead of *all* those above? What's wrong, for example, with teaching vocabulary by using a word appropriately in a sample sentence? Though obviously better than word lists, this is still deficient to the extent that the unsituated sentence remains itself ambiguous or pointless as to intent, connotation, style, and so on. Furthermore,

using purposeless fragments as learning units conveys a bad message besides being boring.

ACCEPTABLE CASES OF FOCUSING ON SUBSTRUCTURES

Some single sentences and single paragraphs are real wholes unto themselves, complete discourses. A proverb is an example of a single-sentence discourse. Some captions are complete in either a sentence or a paragraph. Entries in dictionaries and encyclopedias legitimately call for isolated words, phases, sentences, and paragraphs. But the task must be to say something, not to tailor language and thought so as to come up with a paragraph when done. It should be the communication situation that calls for a single paragraph.

Another exception to our stance against particle learning may be certain kinds of games in which phonemes, syllables, words, phrases, and isolated sentences are treated entirely as play tokens, frankly as fragments not intended to communicate. Adults may take language too much for granted to appreciate that children can think of language as a play medium like any other, as matter to manipulate, the more so as its sounds, words, and sentence structures may still seem exotic to them. But it's essential that teachers not rationalize drills by calling them games. A game must be so perceived by students, who have no problem substituting a play context for a communication context.

Wholeness is the key. The great principle of nature is unity—the harmony of many things in oneness, of parts within wholes. In both Western and Eastern civilizations unity has always been the highest ideal of education. In our own age of bureaucratization it takes a special effort to offset compartmentalization. So it is critical to integrate language learning in every possible way—the learner, the learning, and the learned. The individual's state of mind necessarily reflects in some measure the state of his surroundings. The environment for language learning must preserve the truth about language: as the main ingredient in our symbolic life it not only operates within every aspect of our lives but part of its very function is to integrate the diversity of experience into a harmonious whole. Keeping this always in mind makes teaching language far more successful.

MAKING SCHOOLING MORE EFFECTIVE

If one were asked to name three things that are the hardest for schools to bring about, the answer would most likely be individualization, interaction, and integration. This is because the trend of any institution, not just of schools, goes the other way—toward standardization, depersonalization, and compartmentalization. These are chronic problems of governments, corporations, and every other sort of private and public institution, not just of schools. Much of the call for school reform just expresses the citizen's frustration with the diminishing "payoff" of his institutions, which have rapidly grown larger and hence more inefficient.

The whole purpose of an institution is to gain the advantage of doing things as a group over doing things alone. But it's precisely the large numbers that cause institutions always to drift toward standardization, depersonalization, and compartmentalization. Is this a hopeless bind? In order to run schools at all, we must assume that a way out can be found. Any discussion of methods must take

account not only of how children grow in thought and speech, but of how the individualization, interaction, and integration required for their growth can be instituted in schools.

It is first necessary to acknowledge that in combating failure or inefficiency in language education we're not dealing with mere learning problems but with institutional problems. Practically speaking, there's no mystery about how people learn to read and write. It occurred successfully centuries before public schools existed, and it occurs frequently nowadays out of school. But in the old days or in a modern middle-class home a tutorial situation explains the difference—no large numbers to teach at once. The fact is that learning to read and write, despite the awful fracas it causes in schools, is easier than learning to speak. This is a critical point, because it means we have to quit ascribing failure to learners, or shopping around for new technical innovations in learning, and start changing schoolroom management.

■ ADVANTAGES OF HOME LEARNING

Let's contrast home learning and school learning, for a very important and universally successful kind of learning takes place at home that schools should emulate. Learning to talk is far harder than learning to read and write, and yet every child who is not defective learns to speak even before his nervous system is fully developed and regardless of any so-called underprivileged environment. Children learn to speak with no special instructor or curriculum or learning site—and also with no question of dropouts, under-achieving, or failure. If you doubt that learning to speak is considerably harder than learning to read and write, you should consider for a moment what it entails.

First, before its nervous system is even fully developed, the infant must distinguish human speech from all the other environmental sounds. Then he must classify together those speech sounds that are alike. At the same time, he is pairing off speech sounds with those things they stand for. But in order to pair words with things he has to analyze the heretofore indivisible world and conceptualize these things that people talk about. That is, he is mastering at once both conceptualization and verbalization. To utilize his growing stock of words and meanings, he infers from others' sentences the grammatical laws of the language so he can make up and interpret sentences he has never heard before. Generalizing for himself the basic grammar is itself nothing short of marvelous, but if we consider all the analyzing, classifying, and inferring that a child must do to learn to speak, we have to admit that what he did before school was an astounding intellectual feat surpassing anything normally asked of him in school.

We don't usually think of literacy as easy, or of learning to speak as difficult. More likely, we have the reverse impression. The home learning of speech occurs very spontaneously and successfully compared to the learning of literacy in school, where it seems to occur only by dint of tremendous strain, if indeed it occurs at all. We mustn't be deceived by the ease of one and the exertion of the other. Many people learned to read at home without knowing how or when it happened. The difference is not that reading and writing are harder but that they are usually attempted under what we can only call, comparatively speaking, adverse conditions, that is, in school. If it happened that human beings learned to write first and to speak second, in school, then we would be having crash pro-

grams in learning to speak. The only serious problem of learning to read and write is that it comes second and in an institution. This is quite different from a *learning* problem.

All the faculties that a child needs for learning to read and write have been well exercised in learning to speak—the very same abilities to analyze, classify, and infer. For literacy, a child has to pair spoken words with written words—a relatively easy task, since the stock of meanings is already attached to the spoken words, and the grammatical model has already been generated within. (In neither case is the learning explicitly formulated, nor would explicit formulation help operate the language.) If literacy learning then drags out interminably over elementary and even secondary school, that's because of institutional inefficiency.

One other factor results from literacy coming second—weaker motivation. In learning to speak, the infant is striving to join the human race. It is difficult to match such motivation ever again. Once able to communicate through speech, a youngster at ease in his small circle of family and friends probably feels little need to acquire a second medium. But the compelling reasons in our culture for wanting to read and write are precisely what should become apparent as the child moves out of the home into the larger world beyond. A major reason for the inefficiency of institutions concerns the difficulty of harmonizing their modes of operation with personal reasons for doing things.

A language teacher could do no better than study how speech is learned at home, because schools can beat their own institutionalism if they build methods of language teaching on the home model. Besides having the great advantage that the infant is powerfully motivated to join the human race through speech, the home has, precisely, the assets of individualization, interaction, and integration.

There a child learns language through everything, all the time, and with everybody. At home, learning is not thought of as a specialized activity and is not restricted to a certain time, place, people, and circumstance. The child constantly initiates speech efforts and gets feedback, on the basis of which he modifies his speech. Such parent-child interactions have been recorded and studied and demonstrate beautifully the action-response-revision model of learning that a warm, spontaneous, responsive environment gives.

The child himself sequences his activities and materials from whatever array he can avail himself of. People don't shame him if he speaks ineptly, so he dares to try over and over until he gets good. There's no penalty for error, and the total immersion allows him to get all the powerful benefits of feedback and trial-and-error. His trials are constant and copious and relatively uninhibited. No anxiety is induced by pressure for achievement and by incessant monitoring for progress—the notorious hallmarks of the institution, which has to ascertain who is doing his job well and which materials work best and which kids aren't getting their due. The reason home learning succeeds is that the natural learning processes of the growing child are not disrupted by extraneous factors.

■ ADVANTAGES OF SCHOOLS

Large numbers are not all negative, and the home has its limitations. School could in fact supply exactly what is missing at home—a larger volume and variety of human and material resources to interact with. Learning through differences certainly means getting out and mixing with the world. And wherever large numbers

congregate, there too can accumulate larger amounts of materials, equipment, and facilities than most families could afford. Further realization, in fact, of individualization, interaction, and integration can never come about within the physical and psychological constraints of the home. Its limits remind us indeed of why we bother with institutions in the first place. Their function is to take advantage of numbers without succumbing to the disadvantages. Schools need to make themselves pay off in human returns under the conditions of mass education that a democracy requires. The methodology offered in this book aims at utilizing numbers instead of being done in by them.

■ LEARNING BY DOING

We advocate learning to do a thing by doing it rather than by doing something else that is assumed to teach it. Learning to do A by doing A is a direct method of learning as opposed to learning B in order to do A, which is an indirect method. Examples of indirect methods are diagramming sentences in order to learn to speak or write better, or memorizing definitions or lists of words in order to read better. In both cases the first activity, B, is significantly different in kind from the second or target one, A. Furthermore, there's no evidence that learning B results in learning A. On the other hand, there is evidence from all sorts of human experience other than language that doing A leads to improving skill in A. A direct method of learning justifies *itself*, whereas an indirect method has to be *proved* effective. In language arts, indirect methods have not achieved the major goals; they have only been proved to lead to the mastery of B or the indirect process itself.

Practice of the activities of speaking, writing, listening, performing, and reading are not only the means to the goal but also the goal themselves. All five processes are goals, and yet each can be a means to the others. People can learn to write by talking, to read by listening, to talk by reading, and so on. Transference of this sort *does* occur; it is a way of learning A by practicing another A. Since both A's are goals in themselves, neither is merely a means to another end, as a B activity would be in the indirect-learning model. The relations among performing, speaking, listening, reading, and writing are relations of equals, of whole to whole. Their differences are differences of either distance (speaking and writing) or of direction (reading and writing), which are important differences indeed, but they do not impair the learning of literacy, composition, or comprehension. Rather, they enhance this learning, for distance and direction are themselves dimensions of the learning that must be understood by varying the form of the activity. Indirect learning has no such justification.

■ PROOF OF THE METHODS

No school program can truthfully claim to be proven by scientific fact. It's impossible to control experimentally all the variables at play in school except for activities too small to count. There are so many things going on at once in a language arts program, in a classroom, in an individual's life that we're at a loss to attribute good or bad results scientifically to some of these possible causes and not to others. Proof of the effectiveness of methods emerges informally from massive accumulation of experience in and out of school, where people close to daily activities

can gradually sort out what seems to be working best. This is really more valid and reliable anyway, because it distills greater quantities of evidence and distributes judgment over more assessors. Traditional practices of the indirect, particle sort have been tried for years by this test and found drastically wanting, as evidenced by the great discontent of the public, the high illiteracy rate, and the low level of general reading, writing, and thinking skills. The whole national school system has been the lab for this bit of experimentation.

For other reasons as well, we have rarely in this book tried to justify recommendations by citing research. Research dates fast, and trends in credence and acceptance change. Much research out of school, moreover, uses older subjects who are proficient readers and writers and are therefore functioning very differently from beginners. Applying its findings can be very misleading. Most of all, on the major learning issues, research so often splits that it doesn't seem honest to us to make a case for one approach on the basis of research when we know that you can find other findings to support another approach. Though we don't *rely on* research evidence about specific sorts of language learning, we have tried to learn from it. And we do think that the program we offer in this book concurs with the main findings of cognitive psychology about how people, generally speaking, best learn.

Direct learning, by doing, is so basic that evidence for it exists on every hand. Practice of target activities under conditions of awakened will, copious and various trials, and plentiful, relevant, nonthreatening feedback has been validated by centuries of successful learning in other areas, such as sports, arts, crafts, business, and government. And in the activity closest to reading and writing—speaking—we have the best evidence of all for the approach advocated in this book. We all learned to talk this way.

■ THE DIRECTION FOR THE FUTURE

Change is considered risky, but it is riskier to cling to proven failures. This seems to be the feeling behind the current calls from all quarters for school reform, a reform that ultimately involves restructuring of both curriculum and school management itself. Neither one can change without changing the other. Fully implementing some of the ways and means recommended in this chapter may require not only some restructuring of classrooms and schools but eventually even of districts in relationship to their community. But this is true of the most significant changes being urged by the English Coalition and by the equivalent professional organizations speaking for the other school subject areas. These recommendations accord remarkably well among themselves and go in the direction of those made in this book.[2]

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[2] Richard Lloyd-Jones and Andrea A. Lunsford, eds., *The English Coalition Conference: Democracy Through Language* (Urbana, IL: National Council of Teachers of English, 1989).

Curriculum and Evaluation Standards for School Mathematics (Reston, VA: National Council of Teachers of Mathematics, 1989).

Building a History Curriculum: Guidelines for Teaching History in Schools (Washington, DC: Bradley Commission, Education Excellence Network, 1988).

Charting a Course: Social Studies for the 21st Century (Washington, DC: National Commission on Social Studies in the Schools, 1989).

Some of the curriculum proposed here, on the other hand, could actually be characterized as reactionary rather than radical. Individual programs, different working parties doing different things at the same time, kids teaching kids, rippling—these all went on in the one-room schoolhouse. Such "innovations" would in fact return us to an earlier American tradition abandoned not for educational reasons but simply because school populations got bigger. Maximum accessibility, charting and counseling, coaching and consulting, small-group process, total immersion, trial-and-error-with-feedback, and learning by doing—all work together to turn around the school's institutional problem of numbers. They make the three I's possible (not to mention the three R's!). They convert a curse to a blessing. The large numbers and the individual variation that teachers usually despair of can further the very goals that these factors seem to impede.

The classroom should be a microcosm of what is most positive about America—its diversity and flexibility. The hybrid strength that comes from continual synthesis seems to be humanity's chief adaptation now for survival in a very rapidly changing world. The youth of the nation that serves as the growing edge of that world culture cannot afford to be hung up at a rudimentary level of language development by unnecessary problems. There are simply too many other things that schools have got to start teaching that teachers can't move forward on because of the inefficiency in teaching language. This curriculum is meant to overcome this inefficiency and to get on to the more sophisticated symbol usage that the twenty-first century will require of children.

An ancient Chinese doctor is supposed to have said: "There is only one diagnosis—congestion—and only one remedy—circulation." This applies remarkably well not only to problems of digestive, pulmonary, cardiovascular, glandular, and nervous systems, but also to vocabulary, spelling, grammar, reading comprehension, and composition.

Project 2061: Science for All Americans (Washington, DC: American Association for the Advancement of Science, 1989).

Diane W. Birckbichler, ed., *New Perspectives and New Directions in Foreign Language Education* (Lincolnwood, IL: National Textbook Company in conjunction with the American Council on the Teaching of Foreign Languages, 1990).