The saying, "He who teaches others, teaches himself," is very true, not only because constant repetition impresses a fact indelibly on the mind, but because the process of teaching in itself gives deeper insight into the subject taught...

John Amos Comenius, The Great Didactic, circa 1630

The concept of one student teaching another is not new. Mutual instruction was practiced in first-century Rome, and has existed since ancient times in Hindu schools. It was a formal teaching technique in sixteenth-century Silesia and Spain and in seventeenth-century France. In the late eighteenth century there began an educational revolution in England called the "monitorial system" which retained its popularity and influence there and elsewhere for three decades. In nineteenth-century New England there was a serious shortage of schoolteachers; William Bentley Fowle experimented with the monitorial system in his search for a solution to the problem.

Fowle was quick to perceive the more important advantages of student teaching student. In a lecture in 1846 he pointed out that the system had benefits for the students themselves—the deepening of knowledge gained by the experience of imparting it, the sense of responsibility developed by assuming roles of teacher and learner in turn.

Out of practical need, the practice of student teaching student was widespread in nineteenth- and twentieth-century American one-room schools. But the concept of its validity as an instructional strategy for the tutor's learning was lost as a result of its exploitation as a needed managerial strategy for the learner's benefit.

Although the idea of learning by teaching fell into disuse over the years, it was not forgotten. Jerrold R. Zacharias, in a talk given at the White House Conference on Education in 1965, said:

...I do not know what the limits are to... bringing together youngsters in such a way that we are not quite sure which group constitutes the learners and which group the teachers...

Teaching is somehow required of almost everyone, certainly of mothers and fathers. Of late several psychologists have discovered the wonderful age of learning in the years 3 to 6. Presently they will discover the age from 0 to 3, and there will be a lot of talk about infant schools, infant learning, and infant teaching. And who is going to do this teaching? Mothers for sure; fathers too, I hope. Not all of these will have attended colleges. So I think we should apply the system of learning by teaching to the high school students as teachers.

And why stop here? We can also get some mileage out of students being the same age as their pupils. This is especially valuable in the communication arts of speaking, listening, reading, and writing. We need a bold plan to promote pen pals, typing pals, and tape pals who will write to each other, help each other, correct each other.

In 1958-59 a study of "differentiated instruction" was carried out in Dedham, Massachusetts. In a report on the study, Donald T. Durrell commented that "Children prefer to work in pairs and small groups in contrast to whole class study or to working alone."

Since then several projects have demonstrated the potential of the peer-tutoring concept. Among these is Mobilization for Youth, which in 1963 instituted a program wherein culturally disadvantaged high school students were trained to tutor low-achieving pupils. It resulted in significant gains in reading skill for both learners and tutors. At the Institute for Social Research at the University of Michigan, in an investigation of relationships between children four to fourteen years of age, it was found that pupil interaction results in, among other things, greatly increased motivation of both student and "teacher" to learn. In one California school sixth-grade children, among them "problem children" and backward learners, showed remarkable improvement in behavior and attitude toward learning while effectively tutoring first-graders.

Peer-Tutoring: A Rationale

Janet Callender, Antonette Port and Gerald Dykstra
The Hawaii Curriculum Center is actively engaged in exploring ways to best develop, within its curriculum framework of individualized instruction, the opportunities offered by peer-teaching. At nearly any time during class hours a dyad can be seen at one or more locations about the classroom. One dyad might be composed of a second-grader tutoring a kindergarten child; just as probably, two first-graders might be working together. A child taking the learner's role at one time will later be seen tutoring another.

The rationale at this time for developing the potential of peer-teaching includes the long-held assumption mentioned above—that there is no more thorough learning than that gained by communicating knowledge or ability to another. It is significant that our folk wisdom includes in substance the thought “If you want to learn something, teach it.” Zacharias reminds us that many physicists discover they have really understood the second law of thermodynamics only after they have taught it to someone else. Cloward found that although fourth- and fifth-grade students profited from being instructed by their peers, the major impact of the tutorial experience was received by their tenth- and eleventh-grade tutors, among whom were many slow learners.

Also among the reasons for developing the potential of peer-teaching at this time is the mounting evidence that successful communicating of knowledge can, in addition to reinforcing and deepening learning, be a means of increasing the child's confidence and self-respect, and of reforming negative attitudes he may have toward school and teachers, making school and learning more acceptable and desirable. The importance of this area is stressed in the recent Coleman study. Still further reason for developing the potential of peer-teaching is seen in its relevance to language communication skills. It seems especially appropriate in a language skills program that there be daily opportunity to make functional use of whatever has been learned about language communication skills, whether in the designed program or incidentally. There should be a constant return to a real world, wherein conditions are not as contrived and controlled as in the workbook, yet where the task is clearly defined and the criterion for task accomplishment is reasonably visible as well as attainable. The task is to communicate, as specified, linguistic ability or skill or knowledge to another person. The learner's accomplishment can be readily seen. The tutor in these instances has a communicating job to do in a “real world” situation where the detail of non-predictable feedback plays an important role. This gives the language program unique and centrally important laboratory opportunities for purposeful and constant application of “school learning.”

In separate consideration, we must not overlook the learner. Our cultural heritage indicates in many ways the general belief in the superiority of individual attention over grouping on the learning process. It is found in the educator's folk wisdom, as epitomized in the representation of Mark Hopkins on one end of the bench and the student on the other. It is abundantly found in the admonitions of generations of educators and philosophers. And it is again found more recently in our research studies. Foshay, commissioned by the Association for Supervision and Curriculum Development to determine the best teacher-student ratio, determined in favor of a one-to-one ratio. Anderson of Harvard, taking into account the politics and economics of the problem, found that a one-to-five ratio was next best and a one-to-twelve ratio was a third best alternative. Beyond that, ratio was not a significant factor whether, presumably, one-to-twenty or one-to-fifty.

When new learnings are to be presented, the problem of the “match between the circumstances that a child encounters and the schemata that he has already assimilated” localizes the point at which significant new learning can take place. One person
receiving feedback from the learner is more likely to zero in on the "match" than one person receiving feedback from twenty or thirty, or even as few as ten learners. Usually the presentation of new learning to a group will be either above or below the level at which individual learners can function efficiently. On the other hand, the learning situation usually progresses well with personal interaction in which an individual receives feedback from another individual on a one-to-one basis, at least where goals with small intervals are clearly delineated.

Finally, the area of management strategy may be considered in our statement of rationale for development of peer-teaching. The classroom ordinarily has a teacher. The teacher's role becomes more professional as the emphasis on individualization goes up. In a professionalized classroom with a high degree of emphasis on individualization, there may be teachers' aides, parents, interns, student teachers, older children and also peer tutors who fulfill some of the functions that the teacher might once have fulfilled. Peer-teaching, therefore, may also fulfill a learning management function.

Although it has been ascertained that kindergarten, first- and second-grade tutors do increase their own knowledge and ability by tutoring, much remains to be discovered about the nature of peer-teaching and the means of producing the best results in this reopening field. One area being explored is that of the function of dyads in the framework of the curriculum. Do some components of language arts programs lend themselves more readily than others to peer-teaching? Another area currently being examined is that of the triad. Will it be advantageous and practical to make a third child available to check the achievement of the learner, and to "consult" with the tutor? Another area requiring study is that of tutor training. It has been suggested that brief instructions to the tutor make for more effective tutoring and a harmonious relationship between tutor and learner. What kind and how much tutor training will be most efficacious and for what purposes with what type of support materials? What is the relevance of motivation? Is the satisfaction the child derives from tutoring in itself sufficient? It is probable that different children are motivated in different ways.
Conclusion

Only a few of the possible areas for research have been mentioned here. In the role of manager the teacher will be in the most advantageous position to gather data on dyadic activity. He will be able to fulfill the role of scholar by making purposeful observation of the dyadic activity continually going on in the classroom. In the role of counselor the teacher will become more skillful in guiding students along their self-paced route of learning and learning by tutoring.

The results of experimentation to date have been most heartening; successful dyadic communication has been observed, and dyadic learning has more than fulfilled expectations. With the cooperation of teachers in the Laboratory School, Field Schools and Pilot Schools, the Hawaii Curriculum Center will continue with experimentation in this field, for there is every reason to believe that, despite the great progress and promise, only surface phenomena have been observed—that most of the area of research in peer-teaching remains to be conceived and that the potential practical application of research findings and theory is unlimited.

Footnotes

7. Coleman, James S. In Equality of Educational Opportunity (Washington, D.C.) Coleman shows a high correlation between students’ academic accomplishment and attitudes, self-concept, sense of control over own fate, interest in school, etc.