christian educators journal

SPECIAL ISSUE
INDIVIDUALIZING INSTRUCTION

MAY 1970

TABLE OF CONTENTS

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STATEMENT OF PURPOSE

The Christian Educators Journal Association, composed of several member or sponsoring organizations, publishes the Journal as a channel of communication for all educators committed to the idea of parentally controlled Christian schools, whether at the elementary, secondary, or college level. The general purpose of the Journal is to foster the continuing improvement of educational theory and practice in Christian schools. Therefore, its pages are an open forum for significant articles and studies by Christian educators on Christian teaching. Editorial policy favors those contributions that are normative and evaluative rather than merely descriptive of existing trends and practices in American education. All articles and editorials appearing in it are to be regarded as the expression of the viewpoint of the writers and not as the official position of the Christian Educators Journal Association or its member organizations.

BUSINESS MATTERS

Business correspondence concerning subscriptions to the Journal or membership in the Association should be sent to the Business Manager. Subscription price is $3.00 per year for those who are members of supporting organizations and $3.50 per year for individual subscriptions. Issues are published in the months of November, January, March and May. Correspondence concerning articles or book reviews should be addressed to the editor of the appropriate department or to the Managing Editor.

THE UNIQUENESS OF EACH LEARNER

Throughout this issue special attention is given to the many ways in which individualizing instruction can be honored. Not only the cover, but every article, editorial, and special column has been written with this special pedagogical problem in mind. Each carries out in some way our commitment to educating the individual learner in such a way as to honor his uniqueness. The issue has been almost a year in the making, and the various editors and column writers hope that you will find this a valuable and continuing resource for your teaching and for committee use.

While we have long given lip service to the belief that each child is unique in the sight of God, and while we teachers have long known the psychological evidence concerning the wide range of aptitudes, abilities, and interests of any group of students, we have not always worked as hard as we might to implement this commitment. While we marveled in PTA meetings and in teachers lounge that "children are s-o-o-o different," we assigned everybody the same readings, the same number of arithmetic problems, and had everybody take the same spelling exercise every week. While we acknowledged that motivations for misbehavior were as multiple as the personalities performing them, we assigned standard penalties for standard infractions of standard rules. At every turn we proclaimed the realities of individuality, and we practiced uniformity of treatment in both instruction and discipline. Our rhetoric and the reality of our actions did not match.

Reasons for this state of affairs are not hard to find if one wishes to rationalize our behavior: large classes, multiple preparations, limited library and laboratory facilities, pressures from high school and college to 'cover ground.' Any one of these, let alone several, can be used to justify our assigning regular and routinized exercises for everyone, and proceeding lockstep through a book at the same pace for everyone. When one adds to this state of affairs the lurking suspicion that individualized projects and differentiated assignments will make us lose classroom control, what with students running around and in and out of the room all the time, we have a perfect climate for ignoring the individual's uniqueness.

But our theology will not allow us to escape with such rationalizations forever. The uniqueness observed in each learner is as God-given as is the commonness we observe, and must be equally honored in our pedagogy. Biblical evidence may be found in St. Paul's enunciation of the principle of the diversity of gifts, and his use of the metaphor that the church is a body with many parts, each part providing a unique contribution to the whole body. If this is to be more than abstract theologizing about the nature of man, we will have to show evidence in the curriculum that we believe it, and the concept of individualizing instruction captures this most consistently.

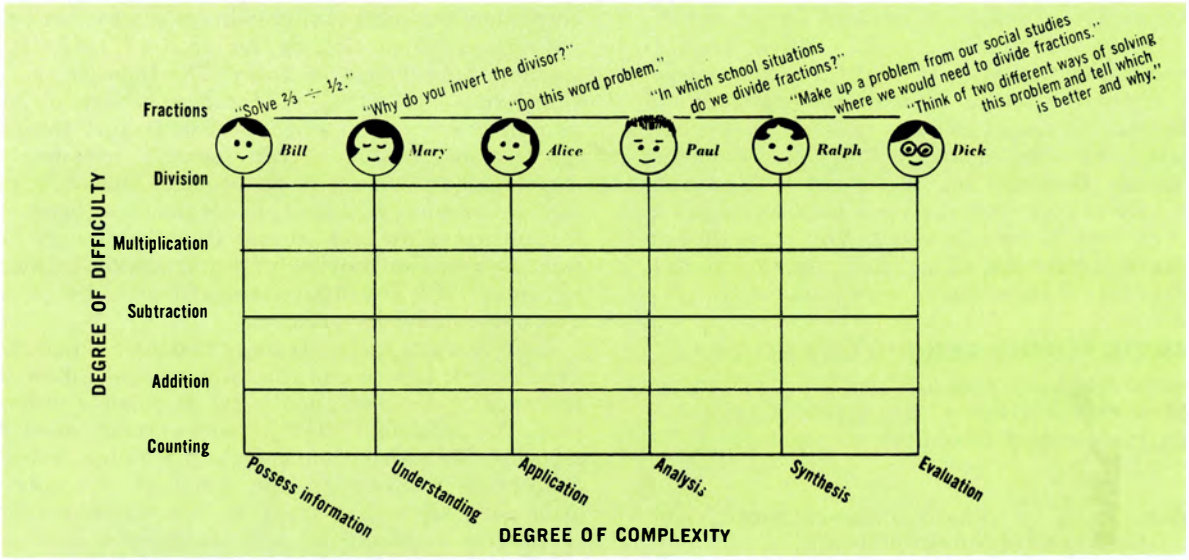
Madeline Hunter in the March, 1970 issue of *Instructor* has stated well some misconceptions as well as given a succinct statement of individualized instruction:

> INDIVIDUALIZED INSTRUCTION is one of the most popular and most misunderstood concepts in education. Some teachers view it as the act of trying to juggle twenty-five to thirty-five child-shaped balls of different activities at the same time. Others view it as an electronic arsenal with each learner plugged into his appropriate socket. Still others perceive it as turning all responsibility for learning over to the students. None of these views is accurate.
>
> Individualized instruction is no one way of conducting education, nor any one special program. It is the process of custom-tailoring instruction so it fits a particular learner. An individualized program is not necessarily different for each learner, but must be appropriate for each.

The illustration given below and drawn from the same article shows the meaning of the concept applied to an arithmetic lesson. All students would be doing work on fractions, but different groups would be doing problems of different complexity. If you could construct a similar series of problems for subtraction or multiplication as shown on the chart, you would be assured that you have grasped the principle of individualized instruction.

Try it.

–D.O.



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INDIVIDUALIZED UNIFIED SCIENCE

HAPPENING IN CHRISTIAN SCHOOLS

HENRY TRIEZENBERG*

During the school year 1968-69, the National Union of Christian Schools conducted a formal trial of Intermediate Science Curriculum Study (ISCS) materials in cooperation with six Michigan Christian schools: Battle Creek, Cutlerville, Grant, Jenison, Kelloggsville, and West Side in Grand Rapids. ISCS materials were chosen for trial by the National Union science committee because they appeared to allow implementation of the science education philosophy published in the March 1968 CEJ more fully than other materials available. Realization of this potential has exceeded our expectations. Interim reports were published in the February 1969 *Christian Home and School* and the May 1969 *Christian Educators Journal.* This is largely a report of the formal trial year. In 1969-70 all the original six schools added the second level of the materials and seven additional Christian schools joined: Kalamazoo North, Kalamazoo South and Millbrook of Grand Rapids, in Michigan; Racine, Oostburg and Sheboygan of Wisconsin; and Mexico City of Mexico. Experience has been gained in a variety of schools and communities. You are invited to utilize results of our experience in considering a junior high science curriculum for the school in your community.

INTERMEDIATE SCIENCE CURRICULUM STUDY

The Intermediate Science Curriculum Study curriculum is a unified science curriculum for grades 7, 8 and 9 providing an individulized laboratory approach. In 1970, Level I (grade 7) of the ISCS series entitled *Probing the Natural World* will be published by the Silver Burdett Company, a division of General Learning Corporation. Levels II and III (grades 8 and 9) materials will follow in successive years.

AN INDIVIDUALIZED SCIENCE CURRICULUM

Whether any curriculum is truly individualized probably depends more on what the teacher does with available curriculum materials than on the curriculum materials themselves. But lack of variety and the clarity of available curriculum materials obviously limits any teacher's effort to individualize a curriculum for each of the 150 or less students he contacts in a day. The Intermediate Science Curriculum Study has produced a variety of materials written clearly and in a light-hearted fashion, from which a teacher and a student can select a sequence that is meaningful and unique to the student. Obviously a teacher can autocratically select an identical sequence for all students, or allow each student to autonomously select his own sequence, or provide for any gradation between these extremes. ISCS provides materials for a teacher to make his own professional decisions.

ISCS learning materials are of two major kinds: core and excursion. It is expected that each student follow the core sequence at *his own pace* as far as possible in any given year. The excursions allow a student also to follow *his own sequence.* Remedial excursions help a student understand a concept prerequisite to the work of the core. Other excursions allow a student to investigate an especially challenging problem, the development of a concept in the

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history of science, or a problem especially interesting to him (e.g., The Negative Calorie Diet). The core sequence carries the development of the big ideas that unify the curriculum and the excursions provide for individualization of the pathway. A teacher or a school system can write excursions to fill unique needs. In a typical ISCS classroom, students will be doing many different things at the same time and the teacher will be working with individuals or small groups of students.

A UNIFIED SCIENCE CURRICULUM

ISCS is unified in both its product and process aspects. The product of science is composed of facts (the observations people make) and the ideas inter-relating such facts. The process of science involves observing, measuring, model building, experimenting, etc., which yield the product. In a unified curriculum, separate disciplines of physics, chemistry, biology and earth science are unified in a single science sequence and teaching is based on prior learning. In ISCS, both the product and the process aspects are sequenced in such a fashion through Levels I, II, and III. The student learns to look at the world as a whole.

The ISCS product sequence is revealed in Figure 1. The student begins with basic concepts of force, distance, time, and mass and concludes with the concept that matter is like tiny particles in motion. He uses this concept to initiate Level II, applies it to numerous systems throughout Level II, and concludes this level with a study of energy and of chemical changes in living and non-living systems, particularly in ecosystems. The concept of the particulate nature of matter is applied to an even greater variety of systems in Level III, where a block approach is used. Eventually a dozen blocks will be published, and the teacher or student can choose from these to obtain an emphasis in the life or earth sciences. Most students will complete six blocks in a year.

The ISCS process sequence is revealed on the flow chart of Figure 2. The ISCS student derives most of the facts in the curriculum by making the observations himself rather than by receiving the verbal descriptions of observations made by others. In Level I most of the student's time in the classroom is spent in basic processes such as measuring, and in operationally defining the science terms used. If the student doesn't know the metric system (MKS) when he enters, he learns it, and he uses it throughout the curriculum. Emphasis on these processes gradually diminishes as the student moves into Level II, where he spends most of his time building a model: the particulate nature of matter. In Level III he again spends more of his time operationally defining new terminology, devoting most of his time to experimenting and investigating. As the student progresses through the process sequence, he becomes increasingly self-reliant in utilizing laboratory processes and receives greater responsibility for the design of his own experiments.

EVALUATION

Self-evaluation activities are provided after each chapter of the core sequence so that a student can tell whether he knows and understands enough to proceed. Some teachers also require an essay written in a student's own words to communicate what he has learned in that chapter. If approved, the student can then take a chapter test. Christian school ISCS teachers have written a series of such tests which will be made available. Most teachers require

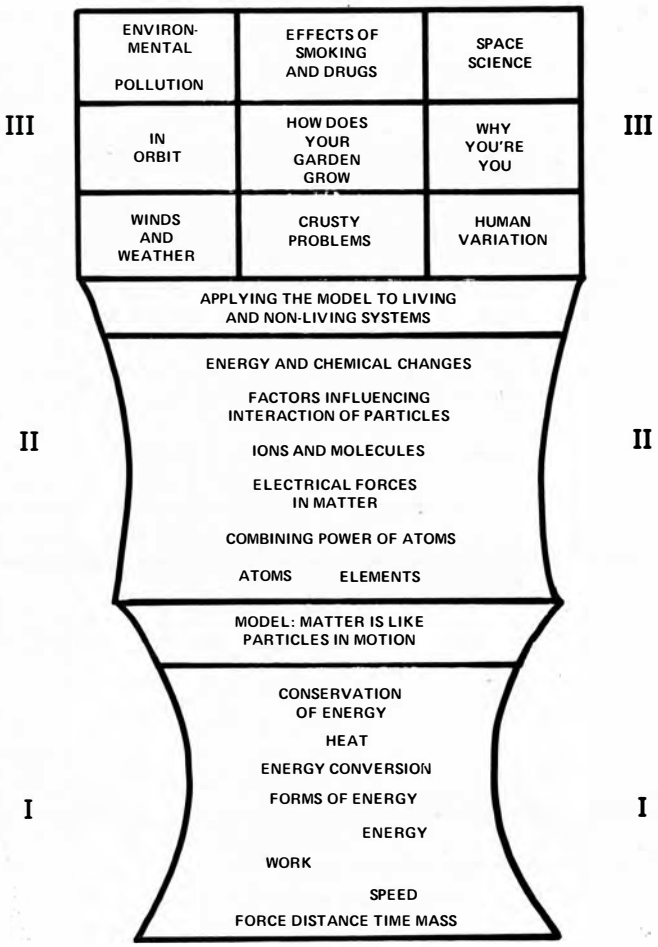


Figure 1

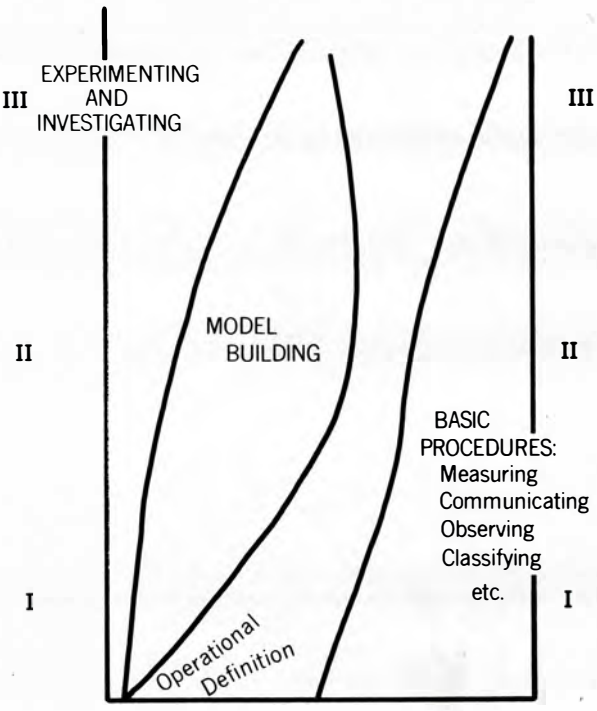


Figure 2

that a student perform 67 of the items correctly before proceeding to the next chapter. Few of the items measure direct recall; most of them measure a student's ability to interpret, extrapolate, or apply a concept in an unfamiliar situation. The trial teachers also composed a test for chapters one through twelve. This test had thirty-four items in which students were required to choose the best of four possible choices. Two of the items dealt with the nature of science and two of them were ambiguous; results of these items are not reported here. The ambiguous items have already been revised. Of the thirty items reported here, eleven can be classified in Bloom's[1] Knowledge (K) category, ten in Comprehension (C), and nine in Application (A). The items can also be classified by concept. Results shown in Figure 3 report the proportion of about 230 students who responded correctly to the number of items given in parentheses after the proportion.

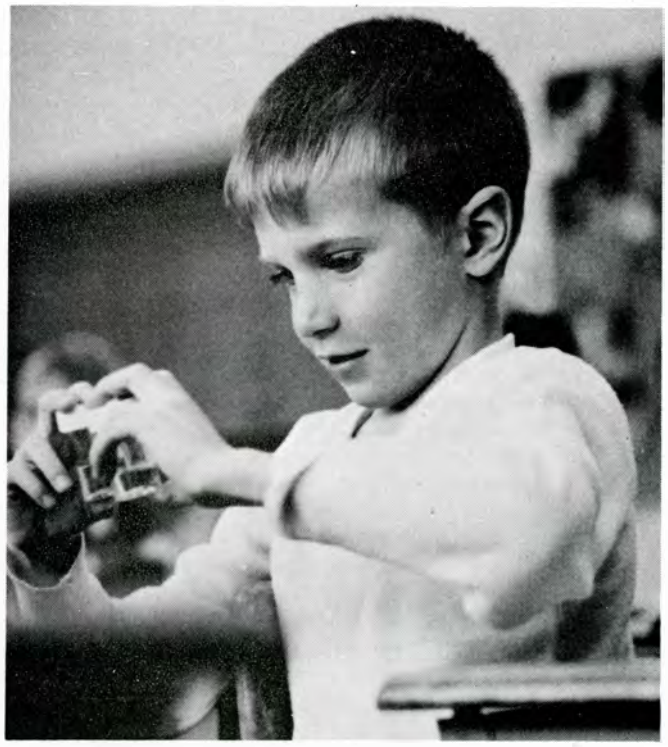
	K (11)	C (10)	A (9)	Mean
I. Electrical Energy Sources	$.85_{(2)}$	$.77_{(2)}$		.81
II. Metric System	$.87_{(4)}$	$.72_{(2)}$	$.69_{(2)}$	.79
III. Forces	$.62_{(4)}$	$.48_{(4)}$	$.64_{(4)}$	.57
IV. Variables (mass, time, work, etc.)	$.52_{(1)}$	$.43_{(2)}$	$.72_{(3)}$	.59
Mean	.75	.57	.68	.67

Figure 3. Proportion of Correct Responses by Grade 7 Students, Chap. 1-12 test.

Inspection of the proportions shown in figure 3 reveals that students performed adequately on items concerning electrical energy sources and the metric system, as well as on Application items concerning forces and variables. Apparently students can adequately apply their knowledge to unfamiliar situations. Fine articulation and interpretation of forces and variables leaves something to be desired and steps are being taken to increase these abilities. A measure of success can already be reported on the one item concerning knowledge of (the definition of) variables: whereas last year .16 of the students in one school responded correctly, this year .73 of the students under the same teacher chose the best answer.

AFFECTIVE DOMAIN

A serendipitous result of the Christian school ISCS trial is the ease with which attitudes and values can be taught in an ISCS classroom. The attitudes of students in the ISCS classrooms are decidedly positive. Students like to do their own science. The value of personal integrity and honesty in reporting data is more easily taught in an individualized and sequential curriculum. The student must make his own decisions. If he chooses to "dry-lab" his data or report data other than what was obtained, misunderstanding the operations, he is likely to fail in a subsequent experience in which he must use whatever understanding he has gained. The practice of "dry-labing" in traditional laboratory experience is so common as to be accepted, yet integrity of communication is the life blood of the scientific enterprise.



"It is expected that each student follow the core sequence **at his own** pace . . ."

Few teachers defend the practice; in fact probably most of them tell their students about the importance of communicating their data correctly – and then structure the classroom situation so that the student who "dry-labs" wins. In an individualized sequential curriculum dishonesty becomes less common as it becomes more obvious that a person hurts only himself. Other personal values essential in the scientific enterprise are values of self-reliance and social responsibility. A student who is honestly permitted to set the pace for his own learning becomes increasingly self-reliant. Care and use of the science equipment is a group thing -- the group succeeds or fails together, since the members are obviously dependent on each other for the condition of the equipment. An individual's social responsibility grows when others depend on him and he depends on others. Anyone can have an accident in the lab, and everyone needs help with or additional data for his lab work at some time during the year. People obviously need each other. It is difficult to assess and report personal growth in self-reliance and social responsibility. In the Christian school trials we have observed it taking place, however, and have attempted a more objective evaluation.

Items were written to be classified in one of two categories: willingness to "Receive or Attend" to a value, and "Valuing" (acceptance, perference, or commitment).[2]

Students were asked to indicate whether they *like very much* to do something (+2), *like to do it* (+1), *neither like or dislike* (0), *dislike* doing it (-1), or *dislike very much* doing what the item says (-2). Mean response from over 70 students for 10 items concerning the value of self-reliance or individual responsibility was +.35, with a range from +1.40 on the item "Doing your own science in class" to -.28 on the item "Read science library books." On three items concerned with reading about science, most students

. . . "Whether any curriculum is truly individualized probably depends more on what the teacher does with available curriculum materials than on the materials themselves."

indicated that they "neither like nor dislike what the item says but would still be willing to do it." Mean response on 10 items concerning the general value of social responsibility (human dignity, sensitivity) was +.90, with a range from +1.23 on the item "Keep equipment usable for the next person" to +.55 on the item "Telling other students they're making too much commotion for you to work." Students indicated their willingness to attend to specific activities as follows: measuring forces, +.37; measuring spin energy, +.40; measuring electrical energy, +.32; measuring cart speed, +.67; and measuring temperature, +1.14.

VALUING

Each student was asked to indicate whether "you *strongly agree* with the whole statement" (+2), *agree* (+1), "you are *uncertain* how you feel about it" (0), *disagree*(-1), or *strongly disagree* (-2). Mean response for six items concerning self-reliance was +1.05 with a range from +1.50 for the item "Since you must use the science equipment in your classroom it's your responsibility to help take care of it" to a reversed reading of +.37 on the item "The science you do in school has no relation to what you do outside of school." Mean response for seven items concerning social responsibility was +.91, with a range from +1.18 on the item "You have helped someone else with his (or her) science equipment this year" to a reverse reading of +.28 on the item "You need to be free to observe and think as you please in science but not all students should have this freedom."

Two items concerned the value of personal integrity. Students generally felt (.28) that scientific ideas did not oppose religious ideas and (.88) that in science you could not report your data dishonestly and still be successful.

Students were also asked to "Circle each of the words that tell how you feel about the subject of science." Results were: interesting, 81 and dull, 15; fun, 81 exciting, 61, and boring, 14; useful, 85 and useless, 5; too hard, 8, and too easy, 5; very important, 60 and worthless, 5; cool, 48 and square, 7; groovy, 48 and uptight, 17.

While it is true that scientists' personal values of self-reliance, integrity, and social responsibility assist the progress of science, they are also basic in the Christian value system. Science teachers who are interested in more than the intellectual development of their students have exceptional opportunities in an individualized curriculum for moral development as well. Whether teachers utilize such opportunities depends largely on their own personal values.

FUTURE EFFORT

Copies of tests described here are available with complete data upon request by professional teachers. The National Union of Christian Schools is committed to the publication of a junior high science teacher's guide tentatively titled *Science and Personal Values.* It will describe methods being used to encourage the development of personal values in Christian schools and will include a battery of tests for facts and concepts in science. A student excursion on *A Christian Perspective on Science* and a student laboratory unit on *Christianity and Change in the Natural World* will also be published. A workshop for junior high teachers planning to implement the Intermediate Science Curriculum Study materials will be co-sponsored with Michigan State University from August 24 to 28, 1970.

Individualized science in Christian schools is happening.

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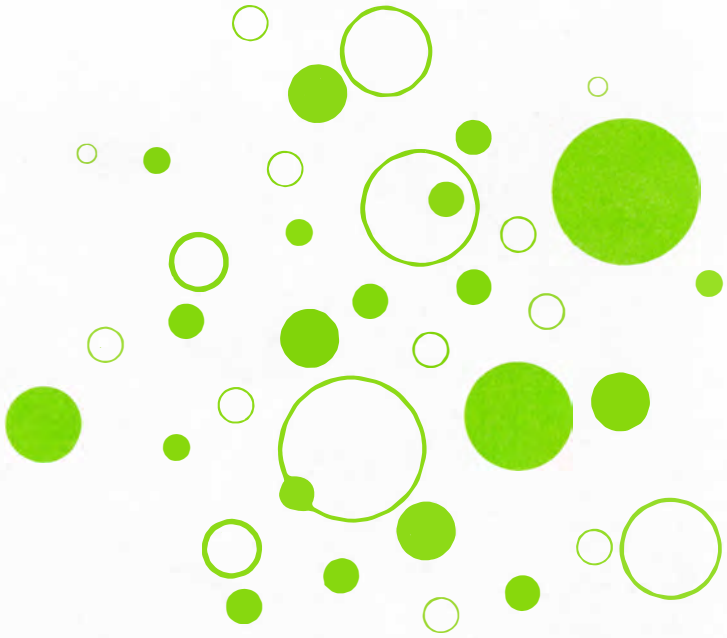
[1] Benjamin S. Bloom, (Ed.) *Taxonomy of Educational Objectives,* Handbook I: Cognitive Domain. New York: David McKay Co., 1956.

[2] David R. Krathwohl, Benjamin S. Bloom, and Bertram B. Masia. *Taxonomy of Educational Objectives,* Handbook II: Affective Domain. New York: David McKay Co., Inc., 1964.



THEORIES OF INSTRUCTION AND INDIVIDUAL DIFFERENCES

J. WIERSMA
AND
H. TRIEZENBERG*

The Problem

Aristotle once pointed out that injustice may result in two ways, treating unequals equally and treating equals unequally. Translated into contemporary pedagogical jargon, the question of justice might surface in the form of asking the question, "And what dear teacher, are you doing about individual differences?" At this point we panic for we share Madeline Hunter's anxiety in the March, 1970 issue of the *Instructor* where she states: "Individualized instruction is one of the most popular and misunderstood concepts in education." One feels a degree of discomfort similar to that created by a discussion of sex education. Since no one has really defined terms, what are we talking about?

Toward a Definition

Analysis of the concept of individualized instruction results in a number of observations. First of all, individualized instruction, understood rather literally or simplistically is not the issue. The real question is, Do we have a theory of instruction "big" enough to allow for individualization? The most unfortunate outcome of our focusing on the topic of individualized instruction would be to conclude that "regular" teaching and individualized instruction are rather separate "bags of tricks." Secondly, individualized instruction does not necessarily mean that all learners will perform a different set of learning tasks. Neither does it necessarily mean that all learners will be performing similar learning tasks at different times. It may mean that, if the teacher judges it to be necessary. Rather an adequate "theory of instruction" proceeds from the assumption that the pupil is an active agent in the learning process. This suggests that one has taught only if someone else has learned. Thus the person who in the final analysis individualizes instruction is the learner himself. (How often has it happened in your classroom where a student "caught" something you never thought you "taught"?). The teacher's role is to help learning happen with the highest *efficiency* for all students. It is with respect to the above efficiency that we should concern ourselves as we discuss the topic of individualized instruction. Individualized instruction is not an end in itself, but a means to an end.

Theories of Instruction: An Overview

Whenever one asks the question, How do humans learn? and What are the implications for teaching? one is forced to deal with the question, What is the relationship between the learner and his environment? By learner we here mean nothing more than that empirical evidence which is the basis of census taking. By environment we mean that particular cultural milieu into which a specific person is born.

Historically, one theory described the environment as the primarily active factor in mental growth. Although not always stated explicitly, this approach could be recognized in many school practices which cast the teacher in the role of someone who literally gives the child an education. The child rather passively receives it. It led to a subject-centered school.

Before a child can understand what we are saying to him, we must first be able to understand what he is saying to us.

Another theory emphasized that the child represents mainly an unfolding from within. The function of the school is to provoke the growth-promoting nutrients, as soil does to a growing plant. These were the people who talked about children "ripening." Perhaps the biggest fallacy in this approach was that the environment was not given its due place in determining the *direction* of the unfolding. The child's growth is not spontaneous. It is directed growth and the teacher plays an important part in giving it direction. A child can be trained to be a savage or a saint. A dandelion has less plasticity.

After seeing that it was of little value for those of us who teach to persist in asking the question, How smart is Johnny innately? and equally fooish to a priori decide what knowledge all children should be poured full of, a third type of theory emerged which recognized the dually active role of both the child and his environment in the learning process. Jean Piaget is such a theorist.

It is true that we should not teach the child what he is not ready for. But it is not true that we should wait until he is ready. Instead of waiting passively, we should actively help him to become ready. It is true that we should study the child we must teach, and recognize that he is growing. It is not true that his growth is a process of unfolding from within. An important part of his growth is his assimilation of the cultural heritage of his generation. Since Piaget's theory is based in part on studies of how the child develops his conceptions of number, space causality and classification, it is of particular interest to mathematics and science teachers.

Jean Piaget — A Developmental Theorist

Piaget is a Swiss writer, who has spent some forty years developing a theory of how children develop an adult intelligence. His primary research technique has been to conduct personal interviews with children, during which a child is questioned about a host of problematic situations and personal experiences. It is probably fair to say that American interest in Piaget is presently at an all time high.

Since this article does not intend to discuss the intracacies of Piaget's theory in a formal way, let us select some concepts from his theory which lend themselves to an application to the topic of individualized instruction.

A. *Development of Intellect.* There was a time, when children were thought to be miniature adults, with adult minds on a small scale. Piaget says this is not so. In the course of development a child's mental structures undergo qualitative as well as quantitative changes. Piaget describes four distinct stages of mental growth; sensori-motor (birth-eighteen months), pre-operational (18 months-7 years), concrete operational (7 years-11 years), and formal operations (11 years-adulthood).

The order in which the child progresses through the four stages of mental growth is fixed, but his rate of progress is not fixed. The transition from one stage to another can be aided by enriched experience and good teaching.

How does this qualitative difference in thinking demonstate itself? Let us use an example to illustrate. Suppose we have two 20" x 20" squares of paper which we call playground A and playground B. Suppose we also have as part of our equipment small houses, 1" x 2". Suppose that we randomly place five houses on playground A, and on playground B we place five houses directly adjacent to one another. Suppose we now ask a student the question, On which playground is there more space to play? According to Piaget's research the *pre-operational* child would tend to answer, "B". The child at the level of *concrete operations* would tend to say that there is "no difference."

Note: The quality of thought is different in that the *pre-operational* child's thinking is dominated by what he sees or feels about the situation. He is unable to reverse playground A into playground B. The child performing on the level of *concrete operations* realizes that one playground is but a transformation of another and that these transformations are reversible. This makes thought more flexible and penetrating. He can pay attention to two variables at the same time, space used and space available.

Now suppose we also ask the question, How many houses will it take to fill up playground A or playground B (we have two hundred houses available)? The child at level of *concrete operations* will tend to use all the blocks to fill up the playground and proceed to count them 1, 2, 3,.....200. *Note:* This is an example of a concrete operation because the starting point for the thinking is some real system of objects. He can only organize what is immediately present to him.

The child at the level of *formal operations* would tend to solve the above problem by using the dimensions of a house as his units, and then after having established the notion of 20 columns and 10 rows, or vice-versa, could mentally perform the operation, 10 x 20 equals 2000. *Note*: The child can hypothesize about the potential as well as the real. He can ananalyze formal propositions, A=a x b in addition to the relationships of concrete entities. In short, he is capable of scientific thinking and formal mathematical reasoning.

Some Implications of This Are:

1. Besides knowing what errors a child usually makes, we should also try to understand why he makes them. We should remember that an answer which seems very illogical from our point of view has an integrity of its own, on the basis of the child's limited experience. Before a child can understand what we are saying to him, we must first be able to understand what he is saying to us.

2. In the development of new concepts at all stages of learning it is necessary to proceed from the concrete to the abstract. The term "concrete" in the term "concrete operations" should not be confused with the uses of that term in everyday language. Concrete operations are mental operations but the referent of these operations is some object, event, or process in the real world. For the kindergarden child, combining a set of two beads with three beads is concrete, but adding the numbers 2 + 3 is not. For the ninth grade student x + y is not concrete, although in both instances what is concrete or not concrete is relative to the student's past experiences. How many children leaving the ninth grade have a "real" referent for the process of photosynthesis?

We might conclude that a dramatic way to improve all of our teaching is more "show" and less "tell." It may further suggest that Cuisenaire rods and Stern blocks should not be relegated to the primary grades but are necessary equipment for the first eight grades. *Note*: It would appear that this has fantastic implications for the entire curriculum. For example, perhaps it is pedagogically indefensible to tell about a Catholic before showing a Catholic, preferably the real referent (a person) not the vicarious referent (the picture).

B. *Intellect Defined,* to account for intellectual development Piaget finds it necessary to call upon the individual's own activity. An individual comes to see the world as coherent and meaningful to the extent that he acts upon that world and transforms it. Intelligence is action.

Some Implications of This Are:

1. Piaget makes no claims to being an educator, but he has suggested at conferences in this country that children be allowed to do their own learning. You cannot further understanding in the child *simply* by talking to him. Good pedagogy involves presenting the child with situations in which he can experiment in the broadest sense of the term, in trying out things to see what happens, manipulating symbols, posing questions, reconciling what he finds one time with what he finds another (this does not imply "discovery" learning in the sense of being totally on his own). He can more often than not make the discovery if he is guided to them by carefully selected experiences and skillfully formulated questions. Piaget is quoted as saying, "A ready-made truth is only a half-truth."

2. Physical action is one of the bases of learning. For a new concept that we want the child to acquire, we should begin, if possible, with some relevant action that he can perform. For example, the concept of the angle should be preceeded by opportunities to turn the hands of a clock, etc. However, eventually the physical action will be entirely internatlized as a mental operation. Thus although we would introduce the addition of integers as a succession of motions on the number line, eventually the student will do addition mentally without recourse to the number line.

C. Mental activity like metabolic activity is a process of adaptation to the environment. The organism assimilates and this very assimilation forces changes in previous ways of thinking. Learning takes place only if the tasks are neither to easy or too difficult.

Some Implications on This Are:

1. Research seems to suggest that there are two groups of students in trouble in our schools. On the one hand there is the group that experiences constant failure and is caught up in a vicious circle from which there appears to be no escape. These are the so-called drop-outs. The second group are the youngsters who have superior intellectual ability and find physical education as their favorite subject. If teaching is to be truly individualized the teacher must make the decisions about attaining the proper match between the intellectual abilities (partially determined by stage) and the level of difficulty of the curriculum. There appears no other way out than that a wide range (level of difficulty) of materials without artificial grade-level designation would be available in *every* classroom. The *efficiency* of utilization would then depend on the diagnostic powers of the teacher, and the *efficiency* of learning would be maximized. No teacher "hang-up" is more detrimental to the individualization of instruction that the often heard statement, "my kids are ready, but they do that in the seventh grade." Teachers without this "hang-up" will adequately substitute for most attempts at "non-grading" schools.

References

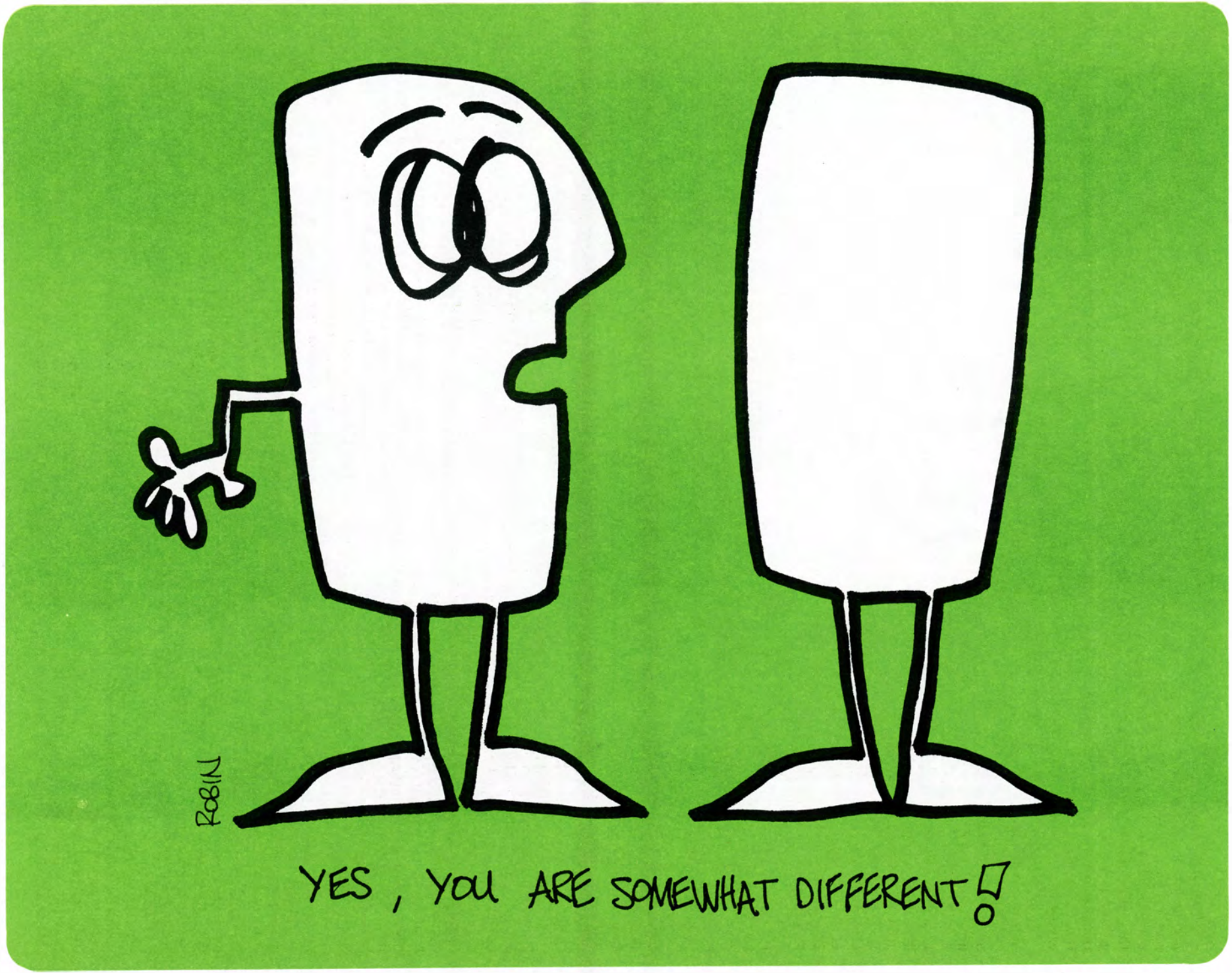
Adler, Irving. "Mental Growth and the Art of Teaching," *The Arithmetic Teacher*, 13: 576-584, November, 1966.

Duckworth, Eleanor, "Piaget Rediscovered," *The Arithmetic* Teacher, 11: 496-499, November, 1964.

Kramer, Klass. *The Teaching of Elementary School Mathematics*, Allyn and Bacon, Boston, 1966.

Sharp, Evelyn. Thinking is Child's Play, E. P. Dutton and Co., New York: 1969.

Triezenberg, Henry. "Background Knowledge to Help Teachers Consider The Child's Perspective" unpublished resource paper, NUCS, Grand Rapids, Michigan.


ROBIN
YES, YOU ARE SOMEWHAT DIFFERENT!

Let's see it Like it is

PAUL WITTE*

Reading Class, Conventional School, Traditionville, U.S.A.

"Class, please turn to page thirty-two in your readers. Do you see the picture on this page? What do you think the rhinocerous is doing? Yes, Sally. You think he is going to eat the alligator! Let's all find out by reading the story. John, will you begin by reading the first paragraph?"

"One day in the warm swamps of Central America, Pogo, the rhinocerous was about to begin eating his lunch."

"Yes, Peter?"

"Teacher, the rhinocerous didn't eat up the alligator. He got away on page thirty-seven."

"Peter, you're not following along with us. We are still on page thirty-two."

"Teacher."

"Yes, Mark?"

"I haven't found the picture yet. What page is this story on?"

The above activity could not possibly take place in a twentieth century United States school? Day in and day out, thousands of children in classes throughout our country are treated as if they were all of the same lemon-lime gelatin mixture, of same socio-economic milieu, of the same intellectual curiosity – ability conglomerate.

Teachers and administrators: let's see it the way it really is! How much, or better yet perhaps, how little attention is given to the student to educate him as an individual?

Oh, Marjorie reads library books and is considered a fast learner since she finishes her assignments before others. Jim works on a project for a science fair; after all he excels in this field so we treat him individually. Dorothy is in remedial reading class; she gets individual help. And, oh yes, this past year the principal reluctantly approved a little programmed English series so students can progress at their own rate. There were a few gadgets, a few filmstrips thrown in, a new super 8 movie projector; and before too many people realized what was happening, there was individualized instruction.

Forgive me if I have oversimplified the general conception of Individually Prescribed Instruction (IPI), but it seems that most educators in our circles are either reluctant to attempt the new, or too poor financially and perhaps professionally to dig into the nitty gritty of it to find out what it's all about. Is this an unfair indictment? Perhaps it would be interesting and revealing to poll our educators as to what IPI means to them. I trust that any professionally-conscious teacher will discover for himself what IPI is, and therefore I will not include definitions of such in this article for people who either should have or have found out.

I do not intend, either, to defend IPI for several reasons: (1) for years we have stated over and over that each student is an individual, has individual problems, abilities, talents; (2) we have not done too much about what we have said but often said we should; (3) IPI needs no defense; it is so obviously needed. We do not graduate a class, but individuals. We do not really teach groups, but individuals. Everything learned is learned by individuals.

The basic purpose of this article is to spur our educators on to investigate IPI and then use it in due time. Therefore implications of IPI for students, teacher, administrators, and Christian schools will be discussed.

IMPLICATIONS FOR STUDENTS

To get a glimpse as to what is going on, take a glance away from the reading class of Conventional School and look at one pupil, called Jim, in an IPI circumstance. (Taken from "Individually Prescribed Instruction," Education U.S.A., 1968.)

> Jim has just been given his new reading "prescription" sheet by his teacher. It indicates the materials he is to study next. He carries it over to the filing cabinet in the learning center. He gets a multicoded reading disc. He places it on a recorder, puts the earphones over his ears, and starts the recorder. A voice says: "Hello, how are you today?" Jim answers: "Very good." The recorded voice then says: "Today we are going to learn about the sounds of letters. Do you have a pencil?" Jim says: "No, but I'll get one." He stops the machine and gets a pencil. In a minute he is back at his place following the record's directions. He is busy filling in the pertinent information on the "prescription" sheet.
>
> When Jim has a question he raises a little red flag, thus telling the teacher he needs help. When he has completed the record, he returns it to its proper

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place. He then takes his completed lesson to a teacher aide who scores it for him. Jim's teacher evaluates the page, listens to him read, asks some questions, and then, if he performs satisfactorily, the teacher tells him to continue with his prescription.

When a student has completed a prescription, he is tested. The test is corrected immediately, and if he gets a grade of 85 percent or better he moves on to a new prescription assigned by the teacher. If he falls below 85 percent, the teacher offers a series of alternative activities to correct weaknesses, including special individual tutoring. He is not permitted to advance to a new unit of work until he achieves the 85 percent proficiency rating.

Throughout this process most of the students appear to be industrious and interested in their work. They are mostly self-directed and misbehavior is no problem.

Implications of IPI are widespread for students. Most obvious of all, of course, is that they learn at their own individual pace. A student finds himself in an almost completely different atmosphere than he would in a conventional school.

IPI relies heavily on student self-direction. He is expected to gather the learning materials called for in a prescription that the teacher writes for him, and to go to his desk and work independently. He is free to use supplementary materials including all the varia of audio-visual devices, materials, and hardware. At first glance, it may seem a weakness to be reliant on student self-direction. However, a sound education ought to prepare a person to be an autonomous problem-solver, a person who can direct himself. One teacher of IPI states that IPI pupils become more independent more highly motivated, and much more able to work effectively on their own without constant direction. In fact, they become more responsible human beings. This certainly has implications for educating people to be leading Christian lives. We cry for leaders in our circles, but are we educating our students in the right manner so they will become leaders?

Another major implication for students is the factor of motivation. IPI pupils were found to be significantly more highly motivated than non-IPI students.

Students do find themselves receiving group instruction under IPI curriculum. There are often seminar periods – at times students cross grade lines, being grouped according to common problems. Some schools have used the prescriptions as homework assignments, but in most instances there is not any homework with IPI subjects.

IMPLICATIONS FOR TEACHERS

Forty-two years ago in the *Yearbook of the National Society for the Study of Education* the following statement appeared: "It has become palpably absurd to expect to achieve uniform results from uniform assignments made to a class of widely differing individuals. Throughout the educational world there has therefore awakened a desire to find some way of adapting schools to the differing individuals who attend them." How many uniform assignments are given each day? How much have we adapted our schools to individual needs of youngsters? Let's see it like it really is! For over forty years we've talked; for over forty years we've called ourselves profesionals and dealt with our clients enmasse. Now, at long last, through technological advances, through efforts on the part of some forward-looking educators, a practical help seems to have appeared in IPI. We best become informed and educated about it ourselves.

There are many implications IPI has for teachers. In fact, to cope with individualized instruction some teachers may have to make total transformations in their minds. In fact, a few may be forced to leave education entirely if adaptation is too painful.

In IPI, a teacher is rarely found lecturing. In 1924, studies concluded that the lecture method was about the worst method used in education. Yet it is a widespread practice and little attempt is made by many teachers to get out of the chasm. Instead of lecturing, an IPI teacher is usually observing a child's progress, evaluating, instructing small groups or individuals who need help, or writing prescriptions. A study by Hilton Bialek found that all the communication in a conventional classroom was less than half instructional compared to an IPI class where communiction was 75% instructional. In the conventional class where communication to an individual was used by the teacher the communication was most of the time non-instructional as compared to the IPI class where it was most of the time instructional. An implication of the study conducted pointed out that much communication in the conventional classroom is a waste of time and is 90% teacher-initiated as compared to 20% teacher-initiated in the IPI class. Thus, the teachers' role changes. Simply stated, in IPI, the teacher does more guiding and directing, diagnosing and analyzing of pupil problems, administering of tests and evaluating.

The most difficult task and most crucial for the teacher will be diagnosis and providing each student with the most effective prescription for him to achieve and retain understanding. Other implications for teachers include the ability to work effectively with teacher-aides or paraprofessionals. (Over 80,000 paraprofessionals are already employed in schools in the U.S.) Another implication is that of proper preparation including IPI workshops as well as courses in the colleges. There would seem to be a need in colleges for courses centered around tutorial instruction; small group dynamics, prescription writing, testing and measurement, and child psychology.

The teacher must really *know* his individual students.

IMPLICATIONS FOR ADMINISTRATORS

Administrators, do you know what IPI is? Have you dismissed it perhaps as many have dismissed SCIS, GCMP, QTRZ and other abbreviated educational terminology? Are you really interested in that individual student, in the teacher being able to have the methods, the knowledge and the materials to be able to deal individually with students?

Too often administrators are prone to emphasize the need for new buildings in order to initiate a new program, or at least point out that the old building limits innovation. Although in some instances alterations may be needed or at least be desirable, IPI does not necessitate new buildings.

Cost of IPI in form of dollars is high. At the present time it cannot be initiated at a comparable cost figure of a conventional curriculum program. As programs are refined costs will lessen. It is estimated that initiating a program may cost from thirty to one-hundred-thirty dollars per pupil. However, can we afford to dismiss IPI from full consideration on this basis? We didn't dismiss black top on the playground, the new projector, or the programmed reading that many schools adopted four to six years ago.

An important implication for the administrator is that he, too, will have to become educated. His role will change. Administrative duties will become minimal for him with someone else performing these tasks. He will be basically where he finally belongs – involved in instruction, in helping teachers, visiting classrooms and participating more often than he does presently. He will have to be the guide, the director, the helper for his individual teachers just as the teacher is for his individual students.

WHAT DOES IPI MEAN FOR CHRISTIAN SCHOOLS?

Virtually all instruction in schools will be individualized instruction within the next twenty-five years, predicts John W. Gardner, former Secretary of HEW. U.S. Commissioner of Education Harold Howe II told some 20,000 administrators of the American Association of School Administrators that individualized instruction should be promoted in every school in the nation. Publishing and other educationally-oriented companies across the nation are beginning to produce and market products and materials for such instruction. Universities in many instances are directing attention to IPI. With such build-up, with such pressure, the question is probably not will our Christian schools initiate individualized instructional programs, but when will they do so, and to what extent?

Without a crystal ball it is rather difficult to visualize exactly what IPI will mean for Christian schools. If the past performances and changes in curriculum in our Christian schools can tell us anything, IPI will eventually find its way to our doors. Perhaps it will be slow in coming due to the financial requirements. However, a gradual shift at this time in the direction of individualized instruction will lessen the burden at a later date.

With such change, grading systems are obsolete, organization of grade levels may need close scrutiny, organization of teaching staffs as well as administrative functions will change.

Althouth IPI will not be ready for massive implementation for another year or two, it is imperative that we inform ourselves now, so that we can properly, responsibly and professionally evaluate it when it comes our way, so that we can see it the way it really is. Let us not initiate a program on the basis that "other schools have it." Let us not, however, hesitate to initiate a program that is good, that is sound, that is needed and was recognized as a need over forty years ago. Let it never happen that IPI is not implemented because of our lack of knowledge or information, or because of neglect of our God-given professional responsibility.

Individualizing Instruction

WES BONZELAAR*

Why should educators be concerned?

As educators we know that chronological age has an extremely modest bearing on the performance and even less on the child's ability. Educators believe that it is palpably absurd to expect to achieve uniform results from uniform assignments made to a class of widely differing individuals. There also is an abundance of research evidence which suggests that the "dull" can learn as much as the bright, albeit in different style and tempo. Learning is something that is ultimately personal and individual; it is the individual who learns, not the group.

What is Individualizing Instruction?

Some educators interpret individualization as simply providing tutorial assistance for pupils and/or providing for independent study. However, individualization of instruction means the planning and implementation of an individualized program of studies tailored to each student's learning needs based on his competencies and his characteristics as a learner. Thus, individualized instruction involves the interaction of *persons, procedures,* and *materials.*

Adopting instructional materials and procedures to individual differences is a function of both student behavior and the nature of the subject matter taught. Adapting to individual requirements does not imply that a student necessarily works alone or in any particular mode or setting. In the course of individualized progress, students may be taught by lecture, by programmed texts, by group discussion, by group projects, by teaching machines or by computers. The essential notion is that individual requirements are matched to appropriate instructional procedures. An individualized approach would make possible each student having a closer relationship with his teacher, which would improve the recent concern for humanizing education. It would also be possible for each student to put into practice his own Christian beliefs. One major goal of Christian education is to create active Christians in the world. However, a child does not have much opportunity in mass education to make an individual decision about his Christian values. General curriculum objectives may no longer be appropriate for teachers who desire to provide for individual differences. The general objectives may be the same; however, the pattern of specific sub-objectives will differ to the extent that different students may work through a sequence of different topics to reach the same objective. According to Robert F. Mager,[1]

> "The teacher must first decide upon the goals he intends to reach at the end of his course or program.

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He must then select procedures, content, and methods which are relevant to the objectives, cause the student to interact with appropriate subject matter in accordance with the principles of learning, and finally measure or evaluate the student's performance according to the objectives or goals originally selected."

If we adapt the objective of our course or program to each individual, individualizing of instruction will take place. Individualization also takes place by allowing for different learning rates involving different amounts of repetition and materials which permit smaller or larger instructional steps.

Why are not more schools Individualizing their programs?

Present school organization and general procedures have been created for handling groups of students rather than individual learners, which was basically the result of the great number of school age children; and up until now there have been very few technical developments and innovations in instructional materials. Teachers that have used individualized instruction discovered that it makes much greater demands on their energies and talents than does more conventional instruction. Also individualization demands a more favorable teacher-pupil ratio and/or it may require a rather liberal use of nonteaching clerical aides, which does increase the cost. The latest information available indicates that an individualized program costs from $37 to $115 per pupil. This cost factor is a major problem in our Christian schools.

Not all available programs are good because a number of companies produced too many materials in too short a time. Publication of many poor quality programs has soured many persons toward programmed instruction. Also many needed programs have not yet been produced. Generally, the basic principles of individualizing instruction are poorly understood and largely ignored.

What are some of the factors underlying Individualization?

1. The introduction of programmed instruction.
2. The development of nongraded and team teaching program.
3. The wider application of the use of computers.
4. The changing technology and its application to educational problems.
5. The recent involvement by subject-matter scholars and behavioral scientists in the more practical problems of education.

What requirements must be met for adoption?

1. It is necessary to redesign the boundaries of grade levels and the arbitrary time units of subject matter coverage to permit each student to work at this actual level of accomplishment in a given area and to permit the student to advance at his own rate.
2. Well-defined sequences of progressive, behaviorally defined objectives must be established for initiating a student's program of study.
3. A student's progress through a curriculum sequence must be monitored by adequate methods and instruments for assessing his abilities and accomplishments to adapt his teaching program to his requirements.
4. Students must be taught and provided with appropriate instructional materials to help them acquire increasing competence in self-directed learning.
5. Special professional training should be provided to school personnel to assist in the evaluation, diagnosis, and guidance of student performance that is required to organize instruction for individualized learning, as contrasted to the total-class management of learning.
6. The individualization of instruction requires that the teacher attend to and utilize detailed information about each student in order to design appropriate instructional programs.[2]

What tools are now available to help?

One of the greatest tools is the computer which many public schools are now using in computerized classrooms. Other tools for aiding programmed learning include the 8mm super and regular film loops, two way radio, educational TV, microforms, dial access information retrieval systems, telephone reaching to homebound children, educasting, and teletypewriter (a sophisticated form of the computer).

Also it is now possible to change the home library or study into learning centers. A learning center today might include; audio-tape and videotape recorders, movie camera and projector, stereo record player, digital computer, study desk, color TV, book-filled shelves, closed-circuit TV monitor, soundproofed walls, cushioned floor, and individual earphones.

The above resources help to put greater emphasis on *learning* instead of teaching. In the words of Fred T. Wilhelms, "When you stop teaching so hard, they start learning more."

Conclusions

Educators concerned with individualizing instruction will palce a great demand upon those involved in curriculum and instructional design. Teachers will have to be provided with well-defined objectives to be achieved by the student, and teachers will need greater information as to what characteristics of students are related to what kinds of learning. The curriculum personnel also must be responsible for providing the necessary tools and information to the teacher and they must begin by defining the objectives of the system. They must then analyze the inputs in terms of learner characteristics, determine ways of measuring these factors, and define and describe all the relevant conditions related to individualized instruction. Educators in the immediate future must have new courage to overcome old educational difficulties and must re-examine the factors by which they were conditioned. "Change," said Richard Hooker, "is not made without inconvenience, even from worse to better." Today educators live with change more than at any other time since God created the world. Educators cannot avoid the responsibility of training students by the best means possible. However, educators cannot acocmplish their goal, individualizing instruction, until they have the courage to change, when necessary, old assumptions and old ways. Remember Francis Bacon's admonition: "He that will not apply new remedies must expect new evils."

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1 Mager, Robert, F. *Preparing Objectives for Programmed Instruction,* San Francisco, California, Fearon Publishers, Inc., 1962, pp. 1-2.

2 Alaser, Robert, Adapting the Elementary School Curriculum to Individual Performance, *Proceedings of the 1967 Invitational Conference on Testing Problems,* 1968, 3-38.

WHEN IS ART INDIVIDUALIZED?

JEANNE BUITER*

A child's art experience should be an opportunity for him to express or interpret in a very individualized way. The art experience should be structured so that this personal interpretation of an event, response to an idea, expression of a feeling, solution to a visual problem is presented as a constant challenge to each child.

When a child is forced or encouraged to copy or imitate examples that some adult conceived or is involved in an experience that demands of him only the skill to cut on or color within the stenciled lines, he is being deprived of the personal and expressive qualities of art. Art loses its vitality and becomes mere production.

How can a teacher chose and plan art experiences that will be a challenge to each child? Ask yourself some questions. What are your goals? Are you more concerned about producing pretty products for parents or is your genuine concern for the expressiveness of the child? Is the activity appropriate to the child? Does he understand your goals and the skills involved? Does the art experience depend upon gimmick rather than expression? Does he have the dexterity for the task? Does the project allow for differences of interpretation? Is the same response demand of everyone? Is the stimulation broad enough that it does not become dictation?

—EACH CHILD WILL BRING HIS OWN RESOURCES TO THE TASK

—SO NO TWO PAINTINGS ARE ALIKE

Each child will not bring the same resources to the challenge. His natural curiosity, responsiveness, and inventiveness may have been either cultivated or destroyed by various factors. While one child bubbles with responses, another struggles and stumbles. Freedom is awkward for those who have not been taught to use it. Therefore, one child may need more support than another in his work. However the support should not be the removal of freedom.

Choose activities that encourage freedom of interpretation and force the child to become a decision maker, a problem solver, an inventor. If we're going to paint pictures about a bible story we read, emphasize the variety of events, characters, possible points of view. Each child should choose the part of the story that interests him, the point of view, the colors. Put as much of the decision making in the hands of each child and give him enough art experiences that he becomes adept at this decision making. If he paints only once a year he will never even master the ability to manipulate the paint less alone the ability to make the paint express.

Help the child learn to decide for himself. He asks what color to paint the angel. Stimulate *him* to choose. He asks why the skinny legs will not hold up the huge elephant he is modeling of clay. Can *he* figure out why? Can *he* find an alternative? She habitually "goofs" and wants to start over. Can she learn to plan first? Can *she* invent a way to adapt her idea to unplanned events? What could that splotch become? Any time a teacher helps a child solve a problem instead of avoiding or funning from it, he serves the individual best. Art experiences are an ideal opportunity for many types of learning.

Recognize the worth of each child's art work. We recognize the worth of each child's work when we respond to it. We can respond by asking questions about how he did it, by asking questions about what the picture is about, and by asking questions that encourage him to evaluate his work. We respond when we display his work in the classroom and halls and encourage others to respond to it.

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Editorial

Since this issue is being devoted to individualized instruction, I began thinking about just how and how much art fits in. We art teachers know that the method of teaching art today aims for the individual response. We don't allow Andy to copy Marcia's painting. The preceding article in this department by J. Buiter emphasizes this.

After children have had art in the grade school and junior high, and maybe a couple of senior high courses, I wondered if they were aware of how art had affected them. So I asked my third semester art students what art had done for them. Not what art is or all the little techniques they learned, but how art had affected or changed them as a person.

Here are some of the responses; I think they speak for themselves:

> "Art stimulates me and I have to be more of 'me' and not someone else. I mean, if conformity and "this is the only answer" is the type of education we want, I better stop taking art."
>
> "I find I am not as materialistic as I was before, because art taught me the beauty of simple things."
>
> "Art made me more aware of people and their feelings."
>
> "Doesn't art make you more aware of God and life? I'm not saying this to impress anyone—it's just what art has done for me."
>
> "There's a most beautiful tree by Reed's Lake that is my friend because of art and e. e. cummings."
>
> "I love to go to the farmer's market, especially in the fall, and look at all the different beautiful colors and textures—of flowers, leaves, pumpkins, peppers, bumpy gourds and squash—things I wouldn't have been aware of without art."
>
> "I have begun thinking about how I'll decorate my house because of what we talked about this semester. Because I've thought about the purpose of a house, a home; I've also thought about what a family should be and how my kids will be brought up. This, because of art."

One student even got poetic about it and wrote:

Round Vibrations

Art is important to me because art told me
who the sky is. Art
makes me happy. Art is the
highest form of
communication. Art is truth and beauty. Art says:
"Life is good, whole, curved, blue... Life is a flat
black stone..."
But most of all, art
says: "Life is real."
Art to me is a heavenly mother.
I listen to
art. But art is not selfish. Art says to listen to others...listen
to Yes and Yes is a little
more than everything. Art is
the cardiograph of Life's heartbeat.

—K.H.

Is this individualized art?

NO

if everyone is "supposed to make this" in a certain way.

if teacher help does not reflect a particular learner's needs.

YES

if each child has created his own design and is making his own implementation decisions.

if help and suggestions are based on each learner's needs.

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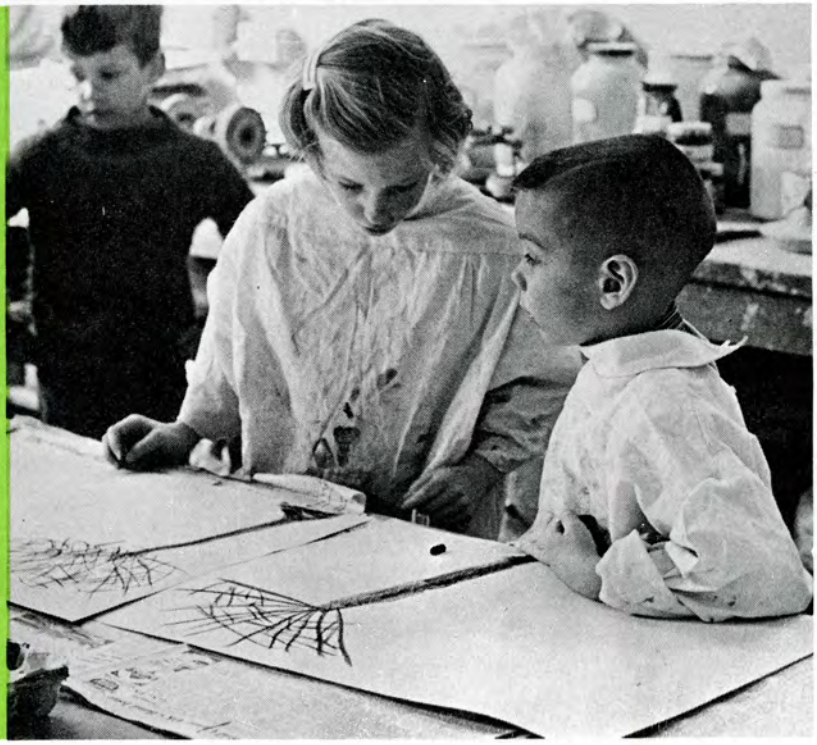

Individualizing Instruction at Trinity Christian College

ROBERT E. VANDER VENNEN*

If a person wishes to spend some time in Europe and learn all that he can from that opportunity, he should do two things. He should consider his own interests and abilities very seriously, and he should also place himself under the guidance and instruction of those well acquainted with European resources. Only then will he be able to make the best use of his limited time in the face of the vast opportunities Europe offers.

The same is true of the student at college. His time would not be well spent if there were no curriculum nor advisers to guide him in developing his unique capabilities amid the givens of the world about him. The college student is looking not for a completely free elective system but for options within a pattern.

At Trinity we have two essential factors which aid flexibility and variety of opportunity. One is the small size of the school, which makes individualizing possible because the pressures for standardizing are not so great as at a large school. The other is a demonstrated commitment to take each student as a person whose own development will need to be different from every other person.

We have eleven majors and five additional disciplines in which a student can elect a minor. Each student has a major and a minor, so this gives 165 combinations of majors and minors. We also have instruction of less than a minor in ten other subject areas. Further, a student can elect to complete three minors, rather than a major and a minor, if this is better suited to his interest.

Within most majors a student's vocational interest affects the character of the major, even though most departments do not offer many courses beyond the basic requirements for the major. The biology major's program will come out differently if he expects to work for an advanced graduate degree, or if he plans to enter medical school, or if he plans to do high school teaching. Similar variations exist for the major in music, and philosophy, and so on.

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One of the special ways the Trinity curriculum is adapted to the individual student needs is in the language requirement. All Trinity graduates will satisfy a language requirement, and most of them will do this through the knowledge of Greek, German, French or Dutch comparable to that attained from the fourth semester of college language study, and a vernacular knowledge of a non-English language. But students who do not need to meet a language requirement to satisfy the department of their major may elect a Language Alternative program which may meet their own needs in a better way. The Alternative consists of three courses beyond two years of foreign language study in high school. These three courses are studied in the English language, and are selected from linguistics, the literature of a non-English speaking people studied in translation, the history of the development of the English language, and semantics. We expect this kind of background in language arts to be especially helpful to prospective elementary school teachers.

Further individualizing of language study is possible through our emphasis on having a student read the subject matter of his major discipline in the foreign language as soon as possible. As soon as he has completed the first semester of the intermediate level course the student is encouraged to develop his reading competence through a series of one-credit tutorial reading courses in the academic area of his choice. In the German Department there is a two track system, one of which emphasizes the development of reading competence very directly, rather than oral fluency and ability to translate into German.

In the department and individual courses there is considerable openness to independent study and research. This can take the form of a student's taking a three credit course for four credits, with the extra credit for special independent study. It sometimes takes the form of a special tutorial course. Trinity's emphasis on the student writing of various critique papers reflects our desire that the student generate responses to instruction that arise from his own

unique insights and commitment, rather than that he give the same short answer on a test question that all his classmates are supposed to give. Frequently the student has a choice of which essay question to answer on an examination. In several courses the student is able to take an oral examination supplementing or replacing written exams.

Within many courses, especially the core required courses, the student has various options he can take in meeting the objectives of the course. In the Perspective course, Philosophy 101, each student selects the subject area of his interest for the seminar sessions that work at the ways that philosophy and Christian thinking bear on that subject. In the basic theology and history courses there is a pattern of special collateral readings which are discussed in seminar sessions, running parallel to class lectures. In psychology and sociology courses there are regular small group projects, many of which take students off the campus, offering a choice of wider experiences. In the sciences our students have opportunities for study and research using laboratories and scientific equipment at nearby Argonne National Laboratory. There are a number of student options within the teacher education program.

For seniors we are planning for next year two special programs designed to give them special opportunities to apply their college learning to their vocational interests. One is the Field Technology program. This will get each senior off the campus in his senior year or the summer before his senior year in a professional work situation where he can test and apply his Trinity education to the kind of professional work he is contemplating. We hope the student will be in a vital secular cultural setting very different from Trinity's. Then he will be able to test the Christian cultural perspective gained at Trinity against the direction and spirit of contemporary society at a time when he will still be able to discuss questions and problems with his professors on a regular basis. For students of psychology and sociology this may be a situation in one of the social welfare agencies in Chicago. Students of the natural sciences may be located in one of the industrial or government laboratories. Those who plan to earn a teaching certificate will have an internship in one of the schools in the area.

The other special senior program is the interdisciplinary seminar. In 1970-1 three concurrent seminars are planned, one including mathematics, chemistry and biology, another in the social disciplines, and the third in the arts. Students and professors in history and philosophy will disperse among the groups according to their interests. The objective is to have advanced students and faculty members struggle together toward a better understanding of the relationships among the academic disciplines and the contributions that philosophy and history from a biblical perspective can make to an understanding of the inner nature of the disciplines. Tying together in this way the historical and theoretical perspectives of his early core studies with his later specialized study, the student will be able to form his own critique of the ideas current in his professional field, rather than accept with the crowd the prevailing secular ideas.

In counseling the student with his curricular choices at Trinity we try with all our might to avoid saying to him that the regulations require such and such, but rather we try to learn what is really best for him and do that, so long as we have the personal resources and can do it in a way that is fair to other students in similar situations.

new curricular flexibility

at Calvin College

CHARLES J. MILLER*

This academic year the educational program at Calvin College has been modified to create new flexibility and to meet almost any serious student at his level of intellectual development, be it high or low. With these changes, the proposals of the Curriculum Study Committee originally issued in 1965, have been fully implemented. (The complete report, *Christian Liberal Arts Education,* has just been published jointly by the college and W. B. Eerdmans Publishing Company.)

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Since the introduction of the free elective system in many colleges, non-compulsory class attendance, and infrequent testing, most students have created their own flexible college programs, but the results have not always been academically desirable. Furthermore, small classes have always existed for the student courageous enough to face such concentrated attention, and informal coffee dialogue with professors has not only been convenient but frequently a substitute for self education.

The Curriculum Study Committee and, subsequently the college faculty, while strengthening a commitment to a structured, Christial liberal arts education, have attempted to find ways to increase this flexibility, to give it purpose,

to make sure that any student can function at the level of his intellectual development. The innovations reach down into the student's high school program and include virtually every phase of the college curriculum – core requirements, majors, minors, honors, and exceptions. When the changes were completed, freshman Bible was the only course for which there was no exception or alternative. Gradually students are recognizing the extent of the new freedom but not nearly as rapidly as the faculty or *Chimes* would wish.

One of the most sweeping changes and one which automatically touches every incoming freshman is a provision by which a student's general education core requirements are reduced by *one* course in each of the major groupings of the academic disciplines – sciences, the social sciences, and the fine arts – and by as many as *three* in the area of the foreign language, if he has had a strong high school preparation. In general, a student must have completed a year's course at the junior or senior level with a minimum grade average of C to be given this exception. The intent of this change is to recognize the upgrading of high school education and to consider the last two years of high school along with the four years of college when defining general academic goals. Indirectly, the purpose is to encourage high school students to take courses which will win them exceptions and to encourage the schools to offer such courses, particularly a minimum of three years in each foreign language.

In addition to this general provision, individual freshman students who feel that their knowledge or experience qualifies them to study at a higher level may request an examination for either exemption from a particular required course or for course credit. Such regulations have long been in the catalog but they have been utilized by few students in the past.

On the basis of these regulations, the faculty hopes that any student–even a freshman–will not be required to register for courses below his level of development and that any will automatically find those courses for which he is qualified and which will stretch his intellectual growth.

Not all freshmen will be touched by these new regulations. There are some, particularly those whose interest in college has budded late or have come with marginal college preparation, who will qualify for no exceptions. These, too, have been considered. Some, in fact, need to be singled out for special training in order to give them a fair chance. For such students–those who have not been granted regular admission–the college has experimented for several years with a non-credit summer Developmental Program which attempts to remedy the particular deficiencies of each student–language or mathematical skills, study techniques, psychological attitudes, or any other. This experimental program has proved so successful in enabling probation students to meet college performance standards that the faculty has adopted it as a regular part of the curriculum.

Modifications have also touched the very heart of the curriculum. The new curriculum implemented in 1967 requires that a student must complete at least one course in each of the major academic disciplines or closely related disciplines. This regulation reflected a strong commitment to a particular kind of Christian liberal arts education. Contrary to the intent of the Curriculum Study Committee, students tend to take a series of survey courses in each field and to attempt to complete them by the end of their second year. The most recent modifications are intended to change this junior college concept. Each core requirement now may be met by at least two different courses, one of which typically is intended for juniors and seniors. The results have been stimulating for both students and professors. Only a few students have had such exalted opinions of their abilities as to aim above their heads and most of these have found the stretch worth while.

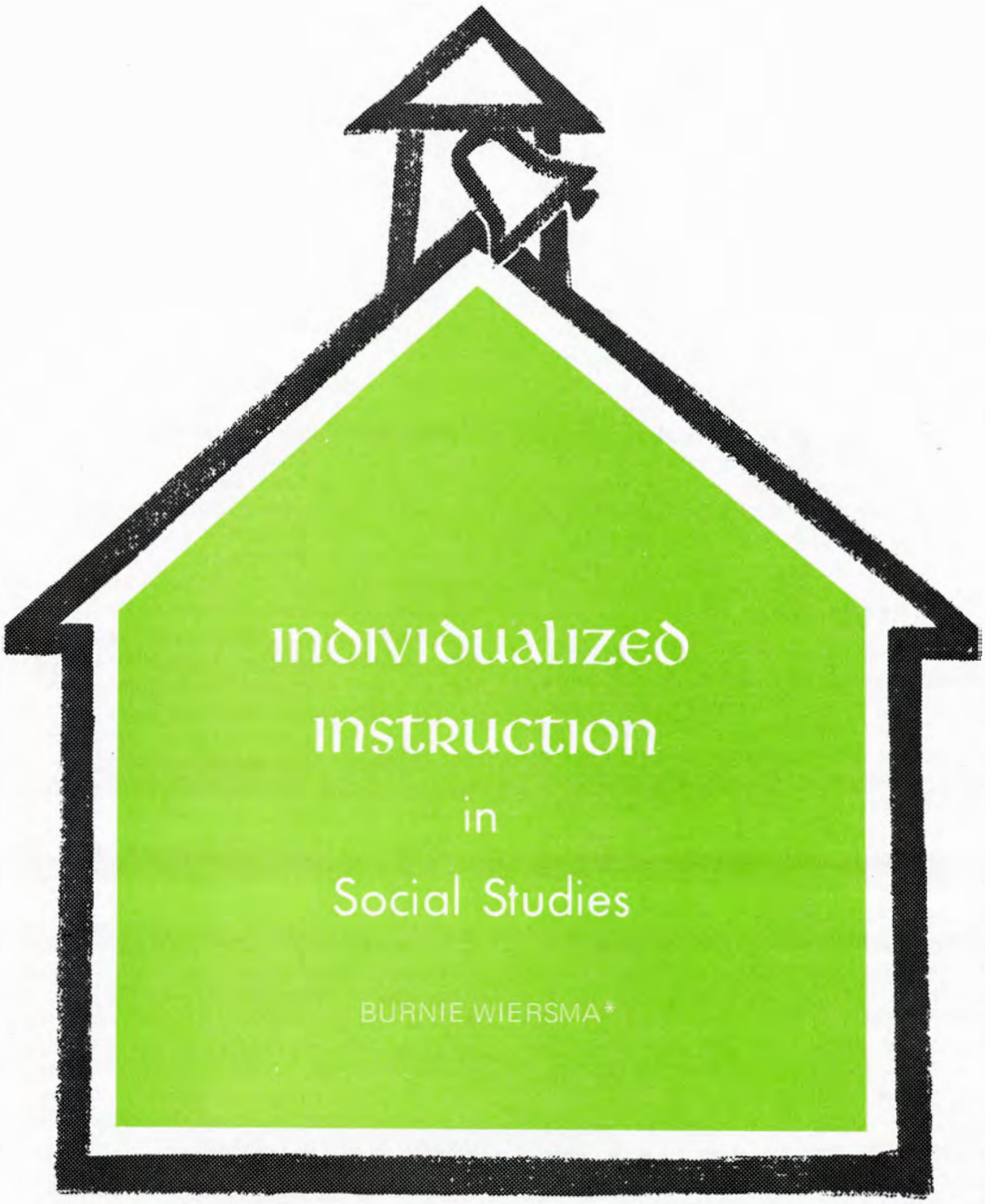
The major program, too, has been further liberated from a strait-jacket. The 1967 change had placed the responsibility for academic advising on the departments, each required to present its basic programs to the faculty for approval. The recent modifications require that each department must offer a nine course major (the equivalent of thirty one and a half hours) and that student advising be pushed back from the end of the junior year to the end of the sophomore year. Furthermore, upper class students as well as freshmen may gain exemption from core requirements or receive course credit by examination.

Beginning this year, a student may also request a group major typically combining work in two departments. A combination of American literature and American history might provide an American studies major while a biology and chemistry group major might meet the needs of a medical or dental school. Such group majors can also meet the needs of teacher certification: They have been common in elementary education; group majors and minors have now been introduced for secondary education.

Two new honors programs supplement this flexibility. The General Honors Program has created honors sections in large courses, special honors courses, and contemplates honors registration in regular courses for which intensive work would be required. Typically any student maintaining a B-plus average is eligible for such courses. The Departmental Honors Program would build on the General Honors Program. Not yet fully implemented, under this program a student would complete at least four courses in the General Honors Program with a minimum average of B, would complete both an independent study or research course and a seminar in his department, and would be required to pass senior comprehensive examinations. Students in this program would be permitted to carry a fifth course.

In one area there is considerably less flexibility than before–in teacher education. Essentially because of the new Michigan code, students in the teacher education programs have only two or three free electives during their four years. This structure, however, is more apparent than real. Within the categories of general education (the area of the core requirements), the major, and the minor, students may meet the requirements with a variety of courses. The only prescribed courses are in the area of professional education which, as yet, has provided no alternatives.

The diversity and flexibility provided in the present Calvin curriculum represents no changing of goals but a clear change in the means of achieving those goals. No student can graduate without a strong Christian liberal arts education but each can accomplish that goal at his own pace, following his own interests, without being lost in a crowd.



THE NEED

Certainly one of the most frustrating experiences in teaching is to observe at the close of each school year, boys and girls who have seemingly not been touched by the best efforts that we teachers put forth. Many are the teachers who seriously contemplate leaving the profession each year simply because they feel an utter sense of failure in their attempts to reach every student. In each class of twenty-five or thirty students that we pass on, there are the four or five whose mastery of the gems of wisdom that we attempt to impart is questionable or non-existent. A plaguing question for all of us, 'How can these students be reach?'

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SOME SOLUTIONS

Perhaps at no time in the history of American education has so much attention been paid to the problem of individual differences, capabilities, potentialities, and interests resident in a class of twenty-five students, all of whom share the same chronological age. During the past ten years the sheer wealth of technological paraphernalia that is available to teachers in attacking this problem is overwhelming. Hardly a month goes by that some breakthrough is not breathlessly announced portending a panacea for the harassed teacher attempting to teach all of his or her students. Teaching machines, computers, programmed learning, casettes, TV, non-graded classes, team teaching, and many other cure-alls are now being tried and tested in many American schools. Doubtlessly, all of these have

proved to be an aid in reaching and teaching the individual student.

OUR PROBLEM

As much as we Christian teachers would like to use some of these machines and processes, in many cases the cost is prohibitive. In addition, Social Studies teachers may find that some of what is new does not necessarily promote understanding of some of the objectives inherent in our courses. Teaching machines and programmed learning courses which provide immediate feedback and allow each person to work at his own speed are fine when used ir teaching facts. When used in teaching concepts, judgments, and the like, they may not be so beneficial. So often the raw materials of history and related subjects present no logical sequence where one fact is unerringly based on another. Cause and effect are not always connected by a well defined gradation of facts or events. Hence, we as Social Studies teachers may have to look beyond many of the new ideas that are prevalent to solve our peculiar problems.

LOOKING BEYOND THE NEW IDEAS

Looking beyond does not have to mean that we go on to develop more refined machines or programs. It may mean that we make better use of resources which we already possess. Primarily, we should rid ourselves of the idea that individualized instruction always or necessarily entails a tutorial relationship. Obviously, the amount of time that any teacher can spend with the individual student is very limited. What, then, can we do to deal with the student who because of a reading, comprehension, or lack of interest difficulty finds him or herself 'lost in the shuffle?'

One general principle underlying any attempt to help the problem student should be our awareness that what is being taught should be broken down into small units with a specific objective in mind for each learning experience. Most problem students simply cannot grasp ideas or facts unless they are fed little by little. Teaching small units will also result in the student experiencing success; the stepping-stone upon which further progress hinges.

The suggestions that follow are not new or untried. Many of the readers will have used any or all of the ideas and perhaps may have programs whose effects are far better than these being presented.

EACH ONE – TEACH ONE

The concept of 'each one – teach one' is certainly intriguing. Utilization of our brighter students to help the slower is perhaps the most readily available method of help. Probably this is no more than a refinement of the old 'one room schoolhouse' but very few would argue that the results of this method have sometimes been tremendous. An obvious drawback in this method is that, possibly, no real learning takes place; answers are merely being passed on without understanding being reached. Certainly not all students, bright or slow, can be used effectively in this approach.

PROGRAM OF LEARNING APPROACH

A modified 'program of learning' can be rather inexpensively designed by any enterprising teacher. A learning center can be established in a certain area of the classroom. Various magazines, paperbacks, worksheets, pictures, objects, etc., can be numbered and stored here. Materials should be catalogued as to difficulty in understanding. Students could be assigned to use materials by a 'prescription method,' i.e., a certain student uses books or materials labeled number one ... number one being previously chosen to fit the needs of that certain individual. Obviously, a program of this kind will take a considerable amount of time not only in gathering and preparing materials, but also in determining the precise level each person has attained so that a proper 'prescription' can be given.

GROUP WORK: YES-NO ANSWER METHOD

Working in small groups can be done effectively but of course a real danger is that non-school activities will be avidly discussed and developed rather than the assigned projects. For learning certain concepts and attitudes, the Yes-No answer method is very effective. Each student is given a series of questions or statements which must be answered 'Yes' or 'No.' Some examples of the type of statements that could be given are: To kill is always wrong. The author of my history textbook is always right. One must obey every law. I am not prejudiced. Tithing is demanded of everyone, etc. Students answer their questions – Yes or No, discussing and defending their answers in a small group. A group chairman takes a tally of the answers and reports to the class as a whole. Answers are not then a matter of class consensus, but hopefully, a difference of opinion will enable an alert teacher to engender new concepts and understandings.

GAMES

Games can sometimes be very effective in teaching new ideas. Latitude and Longitude can become very interesting if the teacher becomes public enemy number one, and hides himself in a certain area. He gives only the correct latitude and longitude and the first student to correctly identify the teacher's hiding place becomes public enemy number one ... picking a new hiding place. Such old standbys as 'Twenty questions' becomes a real challenge at times to even the slowest student in the class.

Graded textbooks covering the same material on different levels are very beneficial but so often the cost prevents their use.

Every effort should be made to capture the interest and capability of the individual student. Many fine contributions to the class are also excellent learning opportunities for students whose only forte is to make models, draw pictures, or make posters. Some students are veritable experts in certain skills and by using these skills the teacher may 'reach' the child.

It surely is incumbent upon every teacher to encourage individual interests. We must also allow for individual methods, and be ever ready to respond to individual needs. We must never let ourselves become lazy, dull, or unresponsive. Whatever we do to satisfy the needs of the individuals in our classrooms, permeating our efforts should be an aura of Christlike concern which can be shown only by a dedicated Christian teacher.

The PRINCIPAL and INDIVIDUALIZED INSTRUCTION

A prime function of Christian education is to recognize individual differences among pupils and foster development of their talents and potentialities for service to God and man. In spite of the volumes of research in articles and books pointing to individual differences among school children, most of our schools are not organized to accommodate these differences. For years we have been giving lip-service to the value of the individual and his uniqueness, yet the expectations for the children in our classrooms; have been uncomfortably uniform.

Providing for individualized instruction can take place in almost every classroom, regardless of the organization. No one pattern of school organization is the answer to meeting individual needs. However, organization is a focal point in determining the extent to which differing individuals are respected. Because different organizational schemes become so confusing, some of us have become non-responsive or even hostile toward change. In vertical school organization, the two alternatives are graded or nongraded. Horizontally, school organization permits several alternative patterns: achievement grouping, interage grouping, heterogeneous grouping, team teaching, small interest groups, large groups and many others.

Each of these groupings has been tried at one time or another as a possible solution to the problem of individualized instruction. The literature seems to indicate that no one arrangement is best. It should also be noted that groupings, though designed to put each child in a most suitable learning environment, contain no guarantee of consideration for the individual. The very purpose of many horizontal grouping plans – the desire to reduce ranges of differences – may lead to emphasis of the group, rather than the pupil. The teacher, deceived by an assumption of homogeneity, may be less aware of the differences and pay less attention to them than if she had a heterogeneous group.

Prior to adopting a different organizational pattern for your school, the wise elementary school principal will make a thorough study with his faculty, including the following: (1) Study – Make a study of your educational objectives and analyze the research and trends found in the literature. (2) Involve your Staff – Teachers and principals must understand the program and accept it as "our" program. (3) Implement – Introduce it as a valid program which will need refinement and revision. (4) Evaluate – How does the program measure up to your stated objectives?

The principal can do several things to encourage individualized instruction in his school. First, he can create a climate for discussion of educational ideas. Participation in faculty and committee meetings where current issues are studied should become a condition of employment. Often teachers welcome the opportunity to become a part in planning new curriculum or innovative programs. It is a lagging school where the principal is praised by his teachers because he doesn't hold faculty meetings or committee meetings which are seriously concerned with the real issues of education.

Another way for the principal to help his staff become more realistic about individual differences in the classroom is to urge professional reading. What teachers read and how they react to it largely determine their flexibility and receptiveness to change. Speaking of professional reading,

*This column, under the editorship of William Kool, was written by Herman Kok, Superintendent, Chicago Southwest Christian School, Oak Lawn, Illinois

what did your teachers think of the feature article of the March, 1970, issue of the *Instructor?* What books have you ordered for your staff library this year? Have you tried the in-service programs produced by NEA?

Third, changes are taking place so rapidly in curriculum that the principal must invest time each year for self-renewal. When did you last spend a summer at the University? Attendance at one or two day institutes on current curriculum or organization issues can be stimulating for you and your staff. When was the last time you visited another school district? Have you thought of reserving a certain time every day for professional reading?

Fourth, a good principal is willing to support and guide members of his staff in trying something new if they believe that it makes sense for children. Your school will then be a place where educational problems are confronted and solutions sought. In the final analysis, the teacher is in the best position to evaluate pupil progress and prescribe instruction. Make it possible for them to try something new, even if it's on a limited scale. "Action research" is an educational cliche often discussed but seldom practiced.

The board meeting is an idea opportunity for you to discuss some aspect of the school's instructional program. (It doesn't cost money or require a vote.) One of your teachers can explain the individualized science program or a committee can present a report on the school's continuous learning program. This not only shows the board the high caliber of your teachers but enables board members to more intelligently help their school.

In any elementary school, the teacher holds the key to effective and efficient teaching. It is obvious, then, that he must *know* and *study* the charges under his care, not as a collective group, but as separate individuals, each with peculiar learning needs. The teacher who is child-sensitive will know on what level he can work, and will no longer ask, "What did the teachers before me teach? These children are not prepared." The teacher sensitive to individual differences knows he must start where the child is. Even though it may never be feasible for the teacher to plan an individualized program for each child in his class, many teachers have found that it is possible to break away from a rigid, uniform instructional program for their entire class. Teachers are designing lessons to account for various levels of achievement and patterns of development among their pupils.

One major factor in promoting individualized instruction is the production of curriculum materials that youngsters may use directly under the guiding hand of the teacher. These materials foster individual growth and often encourage the one-to-one relationship between teacher and child. Certain materials are serving to point out that children can learn for themselves if only given a chance. Now individually prescribed instructional programs are available. We are told that it will be a while before computerized educational programs get beyond experimental centers into the regular classroom setting.

In giving leadership for Christian education in the seventies, the basic questions are not school organization, individualized instruction, curriculum materials, but rather, what kind of child do you wish to produce? Continue to ask the basic questions, Who is this child? For what kind of a life are we preparing him? What is involved in preparing a child to live the Christian life? To what extent is the individual in your school given the opportunity to develop his God-given capacities, whether he has one talent or ten?

● Karl Den Meester thoughtfully read a test paper, keeping his eyes focused on the paper even while he sipped his freeze-dried coffee. Bob Den Denker sat opposite Karl, scanning the April issue of *Current History.* The only other teacher present, John Vroom, noisily munched an apple in the corner of the "asylum" as he scrutinized the "Voices" department of *The Banner,* looking for relevant material to read to his Bible class. While the rest of the faculty attended the student assembly on Environmental Pollution, these three, who had seen the program before, took refuge in the faculty room to catch up on some of the shop-keeping chores of school teaching.

Den Meester slapped a test paper on the table and complained loudly, "What do ya do with a sloub that just takes up space in your class? Here's a kid that's really out of it. He won't do his assignment; he can hardly write a complete sentence; and the clod sleeps right in class when he can get away with it."

"Casey Voddema, I bet?" Den Denker looked calmly at the chagrined English teacher.

"Yeah, and I think I'm gonna kick his tail right out of the room next time he gives me a chance. Kids like that have to be shown in no uncertain way that they're expected to toe the line, to measure up to standards I set for my class. He really murdered this test on *Julius Caesar.* Listen to this once. He had to answer a question on how Shakespeare used the soliloquy in a dramatically effective or ineffective way. And this is what the guy wrote: 'Shakspear used the soliqy to make it more intresting and show us what was important.' That's all he wrote! The dum-dum can't even take notes, because I went over this twice in class, very carefully. Are there degrees of depravity, John?" Vroom paused in his studious chewing of a Jonathan apple and squinted thoughtfully, searching his mind for a proof text, but before he could answer Den Denker cut in briskly, "I think we should take Beelzebub by the tail there and try to rid the good earth of its scum. You're right, Karl, throw the bum out! A dope like that doesn't belong in school, at least not our school. After all, he can't read Shakespeare, he can't regurgitate class lectures, and he dilutes the high quality of our classes."

Pausing briefly, Den Denker continued more softly with

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*In this regular column, several experienced teachers, writing under the pen name of H. H. Zoeklicht turn their searchlight on the problem of individual differences.

OUT! OUT!

H. K. ZOEKLICHT*

a question: "By the way, Karl, how much do you really know about this Voddema boy?"

Den Meester, detecting and resenting the sarcastic edge on Den Denker's tone, cautiously countered with a question of his own: "Know? What other information did you have in mind? I know that he's not learning, that he is messing up his chance to learn about the writings of the world's greatest dramatist. I know that."

"Oh, you mean you don't know that Voddema's mother is institutionalized, that he has to do most of the cooking and housework for five younger Vodemas, that he works at Coney's Drive-In from 9 to 11 every night to pay for his books and tuition, that he's got an I.Q. of about 100, and that he has no real friends in school at all? You don't know that? That's the information I had in mind." Den Denker's voice grew in volume as he delivered himself of his anger.

"How was I to know all that?" Den Meester was both defensive and resentful now. But Den Denker was not finished.

"How indeed! Kids are in class to learn a subject, after all. Why should we bother ourselves with getting to know the Casey Voddemas and what their miserable little lives are all about. What's that got to do with teaching the use of the soliloquy in *Macbeth* or whatever it was? 'Out! Out! Voddema!' Yes, sir! Information on a kid's abilities and hangups could make us mighty uncomfortable. It might even upset the hallowed ways we've always taught our subjects; it might just wake us up to the fact that much of our curriculum here at Omni is absolutely irrelevant to a lot of the kids. It might expose the need for some real counseling, for some new courses and techniques. It might make us question whether our educational production line, geared as it is to the slightly-above-average-white-middle-class-Christian Reformed constituency, is defensible as Christian education. It's much simpler to just kick out the Voddemas as brainless refuse, and sit in our retreat here comfortably damning the academic cruds."

Stung by the sarcasm, the red-faced Den Meester struck back. "So, the self-appointed crusader is riding high again on his great white steed, huh? You'll turn this school into a therapeutic institution yet, won't you."

"Karl, I'm sorry. I don't mean just you, but I've had it up to here with all our inhumane and even unchristian attitudes that pits a Casey Voddema against the college prep, well-heeled bright kids in our classes. We all know he doesn't have a chance, and he knows it too. You know what that does to an individual, Karl? He begins to feel left out, not just ignored but resented, and ultimately rejected as an unimportant failure."

By this time John Vroom was gnawing the last remnants of apple from a nearly devoured core. Turning to the two quarreling teachers, he intoned: "I think it is good for us to remember that some students are by nature more inferior than others. And they must learn this sooner or later. If they are to compete in our society in the years to come, they must learn to compete right here at Omni. I am reminded at this point of Matthew 25, which speaks quite plainly to this question. We all know the meaning of the parable of the talents, don't we." And Vroom emphasized the "don't" as though his announcement would end the matter.

"I'm not so sure you do, John," said Den Meester, "at least that's the first time I've heard that parable used in defense of bad education. But since you're the Bible teacher, let me ask you something. Does each student here at Omni have an infinite value in the eyes of his Maker?"

At this Den Meester threw up his hands. "Oh, cut it out now. When did we start talking about Casey's soul, for crying out loud!"

Den Denker retorted, "But how can we leave Casey's out of the classroom, Karl? We don't just teach minds, do we? Shouldn't our education relate to the *whole* person? And I don't just mean the Casey Voddemas, but also the Merit Scholars like Craig Pienter, bright kids who are often bored stiff because they're caged in a program that doesn't recognize their unique talents and interests, a program that is too inflexible to concern itself seriously with the individual student. Isn't there anything we can do to change that? Do the Voddemas *have* to feel like inferior rejects and the Pienters like superior misfits? Can't we, for example, take a Voddema just as he is and get him started on a reading program that he can handle and enjoy too? Why can't we begin to do things like that? Why not?"

The door opened to admit Principal Rip. He was smiling broadly. "I have good news for you, gentlemen. You know all the complaints I've been getting about this Voddema kid? Well, this morning I caught him sleeping in chapel and this noon hour someone reported him smoking on school premises. So I just called him in during assembly and told him that I was kicking him out for a week. Let's hope he learns his lesson!

Hey, is there a brownie left?"

THE EXPRESSION OF THE

christian Child

SELF PORTRAITS IN CHALK

Above: CARL OOSTERHOUSE, Grade 6, Mayfield

Left: CHERYL FONGERS, Grade 5, Mayfield

MECHANIZED COMMUNICATION CAN BE PERSONAL

DENNIS H. MULDER*

Want to teach students rather than classes? Do you suspect that a ten minute talk with an individual is more productive than an hour lecture to a crowd? Would you rather talk than write notes? Good! Let's try a better method of teaching writing skills: using cassette tape recorders to evaluate student essays.

Any method demands a price which will eventually reflect in dollars spent. Once we accept this maxim we can compare costs. The method suggested here requires some hardware and reasonably limited class enrollments. The teacher who must accept thirty students in his composition classes and who has little or no budget is in an impossible position. Creators of such teaching conditions can expect no more than what they pay for.

NEW METHOD IS EFFICIENT

For those who desire better returns from the time and money they invest in the teaching of writing skills, however, the relatively new cassette tape cartridge is a bargain. It provides all the advantages of voice contact with the student that earlier tape methods have permitted, while it eliminates most of the technical difficulties which frustrated good teachers in the past.

Previously, the teacher who taped his comments about student themes had to employ a bulky, cumbersome machine, usually of the reel-to-reel type, which necessitated putting comments about many themes on one tape. This collection of advice was available to only one pupil at a time, preferably in a prescribed order (absentees broke the "chain" with frustrating regularity). The cassette cartridge nearly eliminates these problems.

The cartridge is smaller than a 3 x 5 card, thinner than a ballpoint pen–truly pocket size. At a cost of around a doller each student can buy his own. The record/playback machines are seldom larger or heavier than *Webster's New Collegiate Dictionary*; some are smaller than a paperback book. Their prices begin under twenty dollars for playback units; machines which record and play back are available for less than fifty dollars.

HUMAN VOICE CONVEYS APPRECIATIVE CONCERN

The greatest advantage if the cassette method lies in portability. Tapes for two classes of twenty composition students fit easily into desk drawer. All your students are ready to "listen" to your suggestions when you are ready to make them. No longer must you struggle with bulky machines (often restricted to school property). No longer need you scribble abbreviated hieroglyphics on the borders of papers, mysterious coded messages which are later as puzzling to you as to the dismayed student. Now you can clearly tell your struggling writer where weaknesses lie and what steps will eliminate them. You can applaud his successes with a ring of enthusiasm in your voice. How often do we bother to scribble praises beyond an occasional, rather bland "good"? Should you prefer, you can pick up a dozen themes and their corresponding cartridges in one hand, a recorder in the other, and do a far better job of coaching from a comfortable lawn chair then you once did chained to a desk.

The students as well as the teacher benefit from conveniences of cartridge tapes. Equip your school library with several inexpensive playback units and students can listen to your advice at their convenience with earphone privacy anywhere in the room. Those who own cassette players (and many do) can hear you anywhere: at home, on the beach, in a car. The teacher of tommorrow must prepare for the first time he pulls up to a stop light and hears his own voice coming from the car beside him!

Another plus of the cassette method over the traditional "correction symbols" technique is that students who readily ignore coded suggestions *will* listen to verbal comments. Rare is the person who will not heed the voice that tolls for him. The only "disadvantage" I have encountered was best described by the girl who complained, "Why do you ask us questions on the tape? I find myself answering you out loud. In a quiet library that's embarrassing!"

CASSETTE USE OPENS NEW APPROACHES

This urge to talk back opens further possibilities for using the cassette. Occasional comments from the student, questions about his theme, strengthen the personal contact between the young writer and his teacher. For the student who talks coherently on many subjects but writes confused papers, recording his thoughts on tape and then transcribing them onto paper can do much to erase the inconsistency.

The tapes can also serve other purposes than theme grading. Detailed instructions of any kind presented to a large group, if recorded on tape, are available to an individual who was absent or to one who needs to hear the explanation again. Tapes can eliminate many of the tedious repetitions which plague teachers in all subject areas.

I have employed the cassette tapes with high school freshmen and seniors, "evening school" students and college people including "senior citizens." Reactions are generally the same. We like to be noticed; we respond best when people talk to us as individuals. Only in Aldous Huxley's "Not-so-brave New World" can one teach classes–we want to deal with individuals. Cassettes can help us do that. Happily, an advance in electronics, just the sort of miniaturized gadget that gives rise to fears of an automated, impersonal world, has made possible the individualized instruction we must preserve. One might well call that "making the opposition work for you."

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INDEPENDENT READING PROGRAM RECOGNIZES THE PERSON

BRUCE HEKMAN*

Where It's At

In a day when the schools are under siege, when American citizens look at the educational system that somehow has not fulfilled its promise, it is time that Christian schools accept the role of discipleship that their name implies.

Though almost every American persists in believing that there is a place for every individual to succeed in our democratic society, though everyone knows that physically and psychologically there can never be two individuals alike, though every Christian recognizes the Biblical truth of *personal* salvation, yet most Christian schools – like their public counterparts – persist in providing a mass education oriented to producing good, middle-class capitalists. In an age when, perhaps more than ever, each person must come to grips with himself before being plunged into the mass pressures of today's society, schools are the sweat boxes which pour more and more dated subject matter into the curriculum, demanding that students learn more stuff at a faster rate under the constant threat of failure – social and economic, as well as academic. Nor does the division of the school program into a solid one for the "academically able" college-bound, and a watered-down version for the others, do much more than teach the student to compete for success where he is. Too often the products of our Christian high schools seem to excel in one area, the ability to make money. And by filling our students with anxiety, by forcing them to compete for high stakes under great pressure, we inhibit personal, spiritual, intellectual, and psychological growth.

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Where It Should Be

The schools must re-establish their goals to become concerned for the future whole life of their students. The schools must be supportive of each student's attempt to find himself. Christian schools have the ideal position of being able to create an environment where the student can develop as a whole man: an environment which encourages the personal religious growth under which all other aspects of life are subsumed. Schools must shift from being – hypocritically – dehumanizing subject-matter-centered to individual-student-centered. The person is the heart of Biblical message. The person must be the heart of the schools.

The answer to the problem of how to create an environment conducive to such a goal is beyond the scope of any one article. This much is certain: no single mass environment will achieve this goal. My proposal is only a beginning, a small pebble that may contribute to an avalanche of change.

A Way To Get There

The plan which follows is designed for use in any school at every grade level. Though presented from the point of view of an English teacher speaking to other English teachers, the plan could profitably be used by anyone in any field. Roughly sketched, the plan provides that class time be given to Independent Reading. The term indicates that the activity will be self-directed and largely self-motivated – the student reads anything he wishes at his own rate for his own reasons.

The plan has many values. By giving a student time in class and the freedom to operate on his own level at his own speed, by supplying him with much enticing reading material of all kinds, and by simply being there to help, to listen and to ask him questions, the teacher can renew the desire of young people to read. By promising not to give grades, thus removing the greatest single cause of anxiety among students (an anxiety which often makes them unwilling to try anything new) the teacher can promote an environment that uses the personal and shared experiences of reading to reinforce the vital personal relationship among students and teachers.

Another value of the activity is that it can run either independent of other curricular concerns as an introduction to or culmination of other activities. Independent Reading works well as a supplement to the promising new Thematic Literature Units being published by NUCS for junior high and high schools.

The first organizational step is to set up broad goals and particular objectives for the activity, guided, of course, by the particular situation. Some sample objectives for a senior high school student might be:

a. The student will demonstrate his intellectual, emotional, and spiritual maturity by his act of choosing books and his subsequent responses to the books he reads as revealed by his oral interaction with peers and teachers.
b. The student will demonstrate his willingness to share his reading experiences by actively engaging in discussions of his readings with others.
c. The student will value reading as a continual source of personal enrichment as shown by his reading habits after the independent reading activity has formally ceased.

Some sample goals for the class might be:

a. To establish the relevance of reading to life.
b. To demonstrate some insight into the relationships of artistic craft to the truths of fiction.
c. To promote personal interaction between teacher and student.
d. To explore the variety of riches that literature has to offer.

One can set goals and objectives more effectively by taking a simple reading survey of the class. If the school

does not have a cumulative reading record for each student, the teacher can elicit information about each student's reading with a simple survey that each student might fill out on a 3 x 5 card. The first request might be, "Please list the titles and/or authors of the books you can remember reading, outside of class, assignments during the past two years." A second request might elicit information about the student's use of other mass media, that is, what TV shows does he watch regularly, what magazines and newspapers does he read, what movies has he gone to? A third request might be for his reading preference: what would he like to read if he had the time and the materials?

The teacher determines how much class time will be allotted to Independent Reading, considering the many variables: age of students, availability of reading materials, cooperation of the administration, students, librarian. For a class of high school seniors meeting every day, four or five weeks might be a good first try.

Armed with raw data and hope, the teacher must find the materials to satisfy the needs of the students. Since student reading interests are often far removed from the teacher's personal reading preferences, this task may seem insurmountable. Fortunately, the first source may be the students themselves. Ask them to bring to class the reading they've liked, to make a class pool. A second source of help is a librarian; if there is one in the community she may be able to supply you with ideas as well as materials. A third resource can be the book selection publications of various organizations interested in young people's reading. Found in every library, most are in paperback and easily available for school use. A list of such publications are appended to this article; every English teacher should become familiar with several of them.

Some of the book selection guides are arranged by subject, so that the students with topical interests can immediately find lists of recommended books on his favorite topic. Almost all the guides provide at least a brief resume of the book listed, and most suggest the reading skill needed to appreciate the book. Since it is impossible for any teacher to keepsup with the flood of good adolescent and children's literature, these guides are invaluable for suggesting books to young readers.

Vital to the success of an Independent Reading Program is the availability of materials, especially for students who don't read. If any obstacle is placed in their path, reading is too much of an effort. For them, a library may be a bewildering, frightening place. Thus one of the best stimuli for student reading is to have the classroom filled with paperbacks to borrow or buy, magazines, newspapers of all kinds. Many schools have started student-run paperback stores. Almost all communities are served by a paperback wholesaler who will help set up a store and stock it at a discount. Paperback book clubs such as the AEP, and the *Scholastic* book clubs are often successful in schools. A request to the community to donate old books and magazines can produce a treasure trove of varied reading, and it makes an excellent community project for a class or school. With a classroom filled with reading materials, students won't be able to resist.

THE TEACHER INTERACTS

Throughout the Independent Reading activity, the teacher has several tasks. The classroom environment should be informal. Permit students to rearrange their chairs as they wish and allow free movement about the room, with subdued conversation. Occasional silence periods may be useful for the students who are easily distracted. The teacher's prime role however is to encounter students: to sit down next to them informally to find out what they're reading, how they like it, and why; and to help the students who can't find anything to read. The teacher can encourage group interaction by suggesting that students recommend books to each other and discuss books they've read in common. The teacher should encourage new reading experiences for students – new ways of looking at books, new ways of responding. He should encourage students to reflect on what they've read, responding to their experiencing by writing (a journal, perhaps), talking, drawing, anything that seems to be an appropriate response. If the student wishes, he may share his responses with his classmates. Always, the teacher should support the student's choice. Encourage him to read widely, but don't push too hard. Thoughtful wide reading itself may turn out to be the best arbiter of taste.

In essence the teacher's role is to produce a relaxed environment conducive to enjoyable, thoughtful reading, and to develop every opportunity for teacher-pupil interaction. The potential of such contacts is unlimited.

RELATED ACTIVITIES ARE ENDLESS

Related activities are almost infinite. A 'coffee kletz' one day a week to discuss what's happening may be useful. Book reviews may be written, though these might become tedious; advertising blurbs might be fun. Students may wish to do a graphic illustration or design a dust jacket for something they've read. Oral interpretations or dramatizations can be exciting; they can be taped for future use. A file reference might be started to assist students looking for something to read, and to give the teacher a record of the student's reading and response. On the card would be items as title, author, paperback or hardcover, number of pages, where the book can be found, who read the book and when, and some brief response. If the prospective reader wants to know more, he can go in person to the reader. All activities should be voluntary; there should always be options for the student. Activities such as these are avenues of response to the central focus of the activity – thoughtful independent reading.

EVALUATION WILL REFLECT OBJECTIVES

Evaluation of student performance must be related to the objectives established in the beginning. Since letter grades are inadequate measures of student performance in this individual activity, evaluation should probably be focused on the effectiveness of the activity in achieving the desired objectives. Yet the real value of the activity for the student may become apparent only some time after the class has completed the activity. Is the student still reading six months or a year later? What books does he choose to read? A more immediate evaluation of the activity can be made with the help of the student participants in frank discussion. If one of your objectives is related to improving reading skills, diagnostic tests can be given to the participating class and to a control group, and the results compared.

This activity is only one of many approaches that may be used under the general rubric of Independent Study. Its greatest value is that it honors the personal value of the individual student in a relaxed, non-threatening environment. It is in such an environment that education can become meaningfully Christian.

BIBLIOGRAPHY

I. INDEPENDENT STUDY

General:

Alexander, William M., and Vynce A. Hines, *Independent Study in Secondary Schools.* New York: Holt, Rinehart and Winston, Inc., 1967.

Association for Supervision and Curriculum Development, *Individualizing Instruction.* Washington, D. C.: ASCD, 1964.

Denby, Robert V. "Independent Study Programs," (NCTE-ERIC Report), *English Journal,* December 1969, p. 1396.

Particular:

Appleby, Bruce C., and John W. Conner, "Well, What Did You Think of It," *E. J.* October 1965, p. 606 ff. Most useful *specific* description of an Individual Reading Program.

Dwight L. Burton, *Literature Study in The High School,* New York: Holt, Rinehart and Winston, 1964. (very good)

Jeannette Veatch, *Individualizing Your Reading Program.* New York: G. P. Putnam's, 1959.

Hedges, Carolyn, "Independent Study Projects: An Antidote to Senioritis?" *E. J.* March 1968, pp. 400-401.

Lambert, Dorothy. "Keeping a Journal," *E. J.* February 1967, pp. 286 ff. Excellent suggestions for students on what to do in a journal.

Marion, Marjorie A. "Independent Study: A First Attempt," *E. J.* February 1967, p. 235 ff.

Squire, James R. "What Does Research in Reading Reveal About Attitudes Toward Reading?" *E. J.*, April, 1969, p. 523 ff. An excellent summary with an extensive Bibliography.

December 1966 *English Journal* p. 1183 ff. Is an excellent article on IRP.

Media and Methods. Monthly magazine with provocative practical articles about education in general, the use of various media in particular. Very timely.

II. BOOK SELECTION GUIDES

BOOKS ABOUT READING GUIDANCE AND YOUNG PEOPLE'S BOOKS

Carlsen, *Books and the Teen-Age Reader*
Pilgrim & McAllister, *Books, Young People and Reading Guidance*
Fader, *Hooked on Books*
Munson, *An Ample Field*
Butman, Reis & Shon, *Paperbacks in the Schools*
Arbuthnot, *Children and Books*
Fadiman, *Lifetime Reading Plan*

AIDS FOR FINDING TITLES FOR READING OF AVERAGE HIGH SCHOOL STUDENTS (GENERAL)

Books for You NCTE
Basic Book Collection for High School
Books for the Teen Age, N. Y. Public Library
Paterns in Reading, Roos,
Book Bait, Walker
Best Books for Children
The Paperback Goes to School
A Catalog of Paperbacks for Grades 7-12 Boylam

AIDS FINDING TITLES FOR READING OF THE COLLEGE-BOUND

College and Adult Reading List, Lueders
Teacher's Guide to World Literature, O'Neal
"Significant Reading Experiences of Superior English Student, *Illinois English Bulletin*
Doors to More Mature Reading, Walker

AIDS FOR FINDING TITLES FOR READING OF SLOW OR RELUCTANT READERS AND FOR JUNIOR HIGH (EASY)

Basic Book Collection for Junior High School
Adventuring with Books (for elementary) NCTE publication
Your Reading (for junior high school) NCTE
High Interest-Easy Reading for Junior & Senior High School Reluctant Readers, Emery
Gateways to Readable Books, Strang, Phelps, Withrow
Good Reading for Poor Readers, Spache
Fare for the Reluctant Reader, Bush
Good Books for Children, Eakins

SPECIALIZED AIDS (Subject)

Reading Ladders for Human Relations, Crosby
Negro Literature for High School Students, Dodds
Unrequired Reading, Tiedt & Tiedt
World History Book List for High Schools, National Council for Social Studies
Vocations in Biography and Fiction, Haebich

SPECIALIZED AIDS FOR FINDING GENRES

Historical Fiction, Hannah Logasa
Historical Non-Fiction, Logasa
Guide to Play Selection, Marsand
Guide to Newer Educational Media, Rufsvold
Book Selection Media, Perkins

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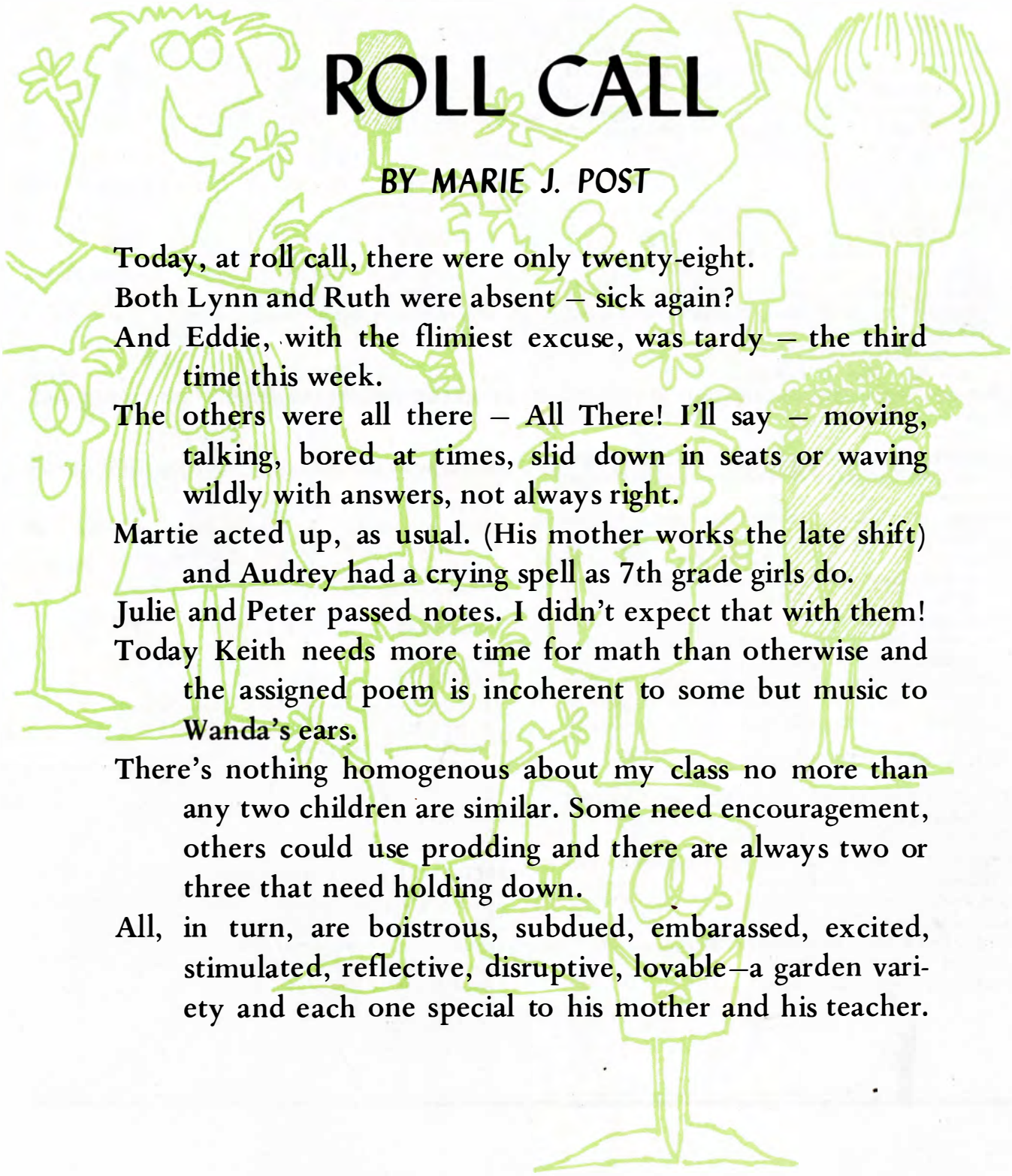

ROLL CALL

BY MARIE J. POST

Today, at roll call, there were only twenty-eight.
Both Lynn and Ruth were absent – sick again?
And Eddie, with the flimiest excuse, was tardy – the third time this week.
The others were all there – All There! I'll say – moving, talking, bored at times, slid down in seats or waving wildly with answers, not always right.
Martie acted up, as usual. (His mother works the late shift) and Audrey had a crying spell as 7th grade girls do.
Julie and Peter passed notes. I didn't expect that with them!
Today Keith needs more time for math than otherwise and the assigned poem is incoherent to some but music to Wanda's ears.
There's nothing homogenous about my class no more than any two children are similar. Some need encouragement, others could use prodding and there are always two or three that need holding down.
All, in turn, are boistrous, subdued, embarassed, excited, stimulated, reflective, disruptive, lovable–a garden variety and each one special to his mother and his teacher.