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A BRIEF LOOK AT INDIVIDUALIZED INSTRUCTION

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If one examines the terminology that is a part of education today, it becomes evident that the teacher is responsible for more than factual presentations. Accountability, humanism, credibility, and personalization are just a few of the new terms being applied to the teachers working vocabulary. All teachers, including science teachers, are constantly being asked to meet the needs of all their students, not just a selected few. This is especially true now, since nationwide science class enrollments are declining. Individualized instruction is a part of the new terminology and, in a limited amount of space, it is also the topic of this article.

Instructional methods commonly employed in the classroom today are the *traditional* or *teacher oriented* method and various applications of individualized instruction. The former method differs from the later method, in that it allows for little student control of learning and definitely limits students' decision making as far as the rate of learning is concerned. The student is structured into materials that are based on the teacher's discretion and goals. The students' study program is basically the result of teacher domination and with this method, individual differences usually are not taken into consideration.

Individualized instruction, on the other hand, presents a direct contrast to *teacher oriented* instruction. The idea of *individualized instruction* is somewhat nebulous as it means something different to most people. This is exemplified by the following definitions of individualized instruction given during a summer institute at Malcolm Price Laboratory School, University of Northern Iowa:

1. The student studies on his own, works at his own rate and is directed by the teacher in specific materials. There are opportunities for the student to work on individual projects and individual differences are taken into account.
2. Individualization is allowance for *freedom* within the framework of an organized structure. Let the students "*do their thing*".
3. Individualization is a teacher assisted, self-pacing program in which the student is given the time and modified instructional materials needed to attain his or her goals.

4. Individualization is the acceptance of pupils as individuals who deserve teachers' respect and confidence, together with a supportive concern about each individual's learning that communicates itself to children; developing ideas with pupils, involving them in the process of learning ideas.
5. Although individualized learning can be carried out to various extents, a basic requirement of all forms is the avoidance of the teacher-class (whole) relationship and initiation of a facilitator-learner (singular) situation. The individual student should be encouraged to ask and answer his own questions under proper guidance, and be able to draw conclusions from his experiences. Manner and approach in which vital concepts are presented or investigated and time allowed depends on the students' background, motivational interest, and ability. The teacher must recognize that what's good for one isn't necessarily good for all.
6. Individualization is an effort to meet student needs by allowing variations in student pace and material covered. Rather than aiming at the average student, it is an attempt to provide challenges for the good student and achievement for the poor student. The first step in individualization is to recognize that every student cannot and should not be forced into the same mold.

Even though the above statements vary, they do however support the idea that individualized instruction is a teaching method derived to meet the needs of each student by personalizing the learning progress of each. This teaching method tends to be more meaningful to each student. Unlike *teacher oriented* instruction, the student tends to have more control over his learning. With individualized instruction, the rate of learning becomes different for each student, and it could be asserted that the rate of learning coincides with the goals of each student. In reality, individualizing student instruction is accomplished by presenting the information in a format that enables each student to obtain and assimilate the given material in such a way that he feels confident about his work.

There are many distinct features of individualized instruction that allow for student success. There are too many to discuss here, but three major features should be identified. The first feature is that the student is the center of learning. Based on the capabilities of the student, the teacher teaches the student, not the class. In fact, the teacher may have thirty classes of one student, rather than one class of thirty students. Or fifteen classes of two students working together is a possibility. Students working in groups of threes and fours are other common practices.

A second concept of individualized instruction that permits student success is the use of performance objectives. The use of performance

objectives helps the teacher guide each student to the achievement of the desired objective. One of the most difficult parts of the evaluative process is knowing how to evaluate--when the objective has been met. (However, a pitfall of relying heavily on performance objectives is teaching only for the objectives and leaving a lot of learning "standing in the wings".)

The format of the learning packets is designed to present the material in small, logical steps. This enables the student to grasp the concepts part-by-part. By doing this, all students, regardless of their academic backgrounds, are capable of finding cognitive success.

Success by small step presentation is only part of the reason why students can achieve academic success. Self-pacing is the ultimate feature that enables each student to be successful. Through self-pacing, each student has the needed time to reflect, review, or study the student oriented material. Self-pacing tends to remove the threat the capable student has always placed on the slower student, when they are in direct competition. If pacing is to be effective, students must be allowed to set a pace they can be successful with. Pacing can, in fact, give many students a chance to show they can succeed in academic endeavors.

Just as important as pacing is evaluation. Evaluation is a critical process in individualized instruction. If pacing is to be meaningful, each student must know that his work will be evaluated according to the work that he has completed and in accordance with his abilities. Many different evaluative instruments have been designed to aid the teacher in the evaluative process.

To put individualized, self-paced instruction in proper perspective, the following answers are given to frequently asked questions:

- 1. What are the advantages of teaching with individualized, self-paced instruction?**
 - a. Each student is honestly able to progress at a rate in accordance with his ability, regardless of how high or low that ability may be.
 - b. The teacher is able to assist each student to reach a level of comprehension paralleling the student's abilities.
 - c. Students who aren't good sitters can be active doers.
- 2. What kind of students take individualized, self-pace courses?**

All kinds. Students ranging from the 99th percentile to 03 percentile on standardized achievement tests. Nearly every student can experience success with self-paced instruction formats, though they may not be judged as college-capable students.

3. Does a classroom have to be remodeled to accommodate individualized, self-paced instruction?

No! Basically no remodeling is required.

4. What kind of class schedule is required for maximum program effectiveness?

The use of self-paced instruction is unique in that it can be successfully used in virtually any type of scheduling (flex-mod, conventional, etc.).

5. How does the cost per student of individualized, self-paced instruction compare with conventional programs?

The cost of individualized programs is normally lower. The greatest savings come in the amount of equipment required, since equipment is normally used by only five or six persons at one time.

6. How well do students in individualized, self-paced courses do academically?

Students do as well or better. Of data collected, 70% of the students scored equal to, or higher than, students in traditional classes on selected standardized tests.

The highlight of individualized instruction is that it offers a new and different concept in the field of education. Although individualized instruction is not the total answer to all teaching problems, it is highly effective in the information acquisition phase of learning. It is also a teaching method that interrelates the areas of personal, social, and cultural sensitivities, each of which is a topic for discussion as a separate entity.

Students, regardless of their socio-economic or academic backgrounds can be successful with self-paced instruction. Past and current research being conducted at Malcolm Price Laboratory School indicates that self-paced instruction is an effective means for learning.

Editorial note: James Kelly, in collaboration with Alan Orr, has recently published a book of individualized biology laboratory experiences. The book, *Self Pacing Biology Experiences*, is published by the University Book and Supply, Cedar Falls, Iowa 50613.

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