Individualized Instruction? I Tried It and It Worked!

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the way, for purchase of groceries and supplies, and to transmit the daily five-minute radio show the project prepared for the broadcast over the local Maquoketa station, KMAQ. The runabout met the flatilla at each beaching point and brought supplies and communications from nearby towns or marinas. It also served as a courier boat for any emergency.

Social studies students surveyed how changes in the Mississippi were affecting the lives of people living along the river. A series of interviews with industries, and Army Corps of Engineers, and "old timers" along the river, were included in this area. Science students made chemical analysis of the water, made a representative collection of river plants and bird life, studied siltation levels, and made bacteria studies and counts. The literature/communication students studied Mark Twain's Life on the Mississippi and wrote their own updated revision of the classic. They also developed a poster series concerning the ecology of the river. Also, among their tasks was responsibility for the daily radio show.

The findings of the month-long study will be collected and collated in the near future so that a cohesive document will ensue. It is hoped that this rather voluminous study will provide interest and motivation so that other secondary institutions might consider similar projects leading to an increase in student awareness of local cultures and ecological problems.

FREE TEACHING MATERIALS

Single copies of the following publications will be sent free to teachers upon request for a specific title.

7. Investigating Insecticides by James E. Murphy.
11. Investigating Particulate Air Pollution by James E. Murphy.
12. A Key to the Identification of Air Pollution Particles by James E. Murphy.
13. The Investigation of Gaseous Air Pollution by James E. Murphy.
16. NOISE: Our "Quiet" Pollution by Theodore Berland-new title.
17. U.S. Geological Sales Publications that are Especially Useful to Teachers.

Submit request to: James Murphy, Science Education Center, The University of Iowa, Iowa City, Iowa 52242.

INDIVIDUALIZED INSTRUCTION? I TRIED IT AND IT WORKED!

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"Individualized instruction?--I tried it and it didn't work!" This is the statement that is frequently heard at professional meetings and in visiting with teachers. Upon further examination, it is usually found that the individuals making the statement only tried an individualized approach for a very short period of time. The frustrations they had experienced were usually that 1) most kids sat around doing nothing, 2) it was impossible to manage the paperwork in keeping track of where each student was, and 3) the time required to develop individualized units and materials just wasn't worth the reward in terms of better pupil achievement. With my sophomore biology class, I too had a taste of these frustrations. However, instead of scrapping the program and labeling it a failure I looked for ways that these frustrations could be alleviated.

Probably the most important lesson gained from my experience was "go slowly." Students who for years have been accustomed to having the
teacher make all of the decisions for them can't be expected to suddenly assume a large responsibility for their own learning. During the first few weeks of the course, our students were involved in structured, group activities. Gradually, the students were given more and more freedom in deciding how and when they would accomplish the goals of the course and finally some students were allowed to set their own goals. In order to make this work, a variety of approaches and materials were needed and offered so that many ways were available to accomplish the course goals. Among these were field trips, large and small group discussions, varied reading materials, films, audio-tutorial lessons, laboratory and projects. The students selected the portions of the smorgasboard they wanted, our only requirement being that they do accomplish the objectives. Naturally, there were some students who could not adapt to this unstructured situation and the structure had to be provided for them. The majority used their time well and did accomplish the objectives or develop their own.

It is also important that the teacher goes slowly in instituting individualized education. The development of varied materials and the writing of goals for the students can be a back-breaking job if you try to move too fast. I would say a time-table for total implementation in the range of three to five years is not unrealistic; if you are fortunate enough to be given summer curriculum development time this can be cut down. This time-table will give you an opportunity to develop a philosophy toward students and curriculum and to grow in your conceptualization of individualized instruction.

I wish I had all of the answers to the problem of paperwork management. With students doing many different things at the same time it is difficult to keep your finger on what each one is doing and therefore easy to lose him in the crowd. Individualized evaluation is of course absolutely essential. We gave achievement exams on portions of the objectives at a designated date after finding the continuous progress--take-the-test-when-you're-ready system totally unmanageable. This was followed by discussions with each student about the objectives and what should be done to correct the problem should the student and I agree that he had not satisfactorily accomplished the objectives. In addition, informal conferences within the classroom were held to identify problems before they became too severe.

The overall conclusion was that, when considered as a class, achievement was not significantly greater than with traditional teaching approaches. However, when students are considered individually, it was found that there were fewer failures. Many more students were found to have been included in the learning process. Opinionnaires filled out by the students indicated very high course ratings and the majority of the students expressed the feeling that biology was a meaningful and rewarding course. It is for these reasons that I say to my colleagues, "Individualized instruction? I've tried it and it works!"

UNI FALL SYMPOSIUM

On November 1 and 2, the University of Northern Iowa will host their annual fall research symposium. The theme is Science and Survival and will include the following:

Guest Speakers:
Dr. Maynard Miller - "Civilization by Geologic Consent"
Dr. George Pimental - "Survival on Mars"
Dr. Jerome Weingart - "Harnessing the Sun"
Dr. Everett Schlinger - "Insects and Environmental Quality"

Student Presenters:
Ms. Anne Marie Hennan - "Electron Microscopic Study of Myelinated Nerve Degeneration in Primary Cat Incisors"
Mr. Gordon Waite - "Experiments in Solar Spectroscopy"
Mr. Bruce Luxon - "A Determination of the Pollution of Soil and Water from the Use of Fertilizer"

In addition, testing will be conducted and twelve scholarships will be awarded to students in physics, biology, chemistry, and earth science. Please contact Dr. Richard Goss, Biology Department, University of Northern Iowa, Cedar Falls, Iowa 50613 for specific details.

KNOW YOUR IJAS LEADERSHIP TEAM

The Iowa Junior Academy of Science is a statewide organization which sponsors programs for students and assists in coordinating other activities within the State of Iowa during the year. The three specific areas of emphasis include research, field programs and community