Iowa Science Teachers Journal

Volume 11 | Number 2 Article 10

1974

Individualized Study in the Junior High School: To Packet or Not to Packet

Jerry Stephens
Urbandale Junior High School

Follow this and additional works at: https://scholarworks.uni.edu/istj

 Part of the Science and Mathematics Education Commons

Let us know how access to this document benefits you

Copyright © Copyright 1974 by the Iowa Academy of Science

Recommended Citation
Stephens, Jerry (1974) "Individualized Study in the Junior High School: To Packet or Not to Packet," *Iowa Science Teachers Journal*: Vol. 11: No. 2, Article 10.
Available at: https://scholarworks.uni.edu/istj/vol11/iss2/10

This Article is brought to you for free and open access by the IAS Journals & Newsletters at UNI ScholarWorks. It has been accepted for inclusion in Iowa Science Teachers Journal by an authorized editor of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.

Offensive Materials Statement: Materials located in UNI ScholarWorks come from a broad range of sources and time periods. Some of these materials may contain offensive stereotypes, ideas, visuals, or language.

INDIVIDUALIZED STUDY IN THE JUNIOR HIGH SCHOOL: TO PACKET OR NOT TO PACKET

Jerry Stephens
7th Math/Science Coordinator
Urbandale Junior High School
Urbandale, Iowa

This article is a summation of a presentation given at the School Science and Mathematics National Convention held in Des Moines, Iowa, November 8-10, 1973. Frederick P. DeLuca of the Science Education Department at Iowa State University coordinated speakers Jerry Stephens, Mary Wieser, Tim Christian, and Walt Hall.

A great deal of theory has been written on the subject of "packet education" but very little has been written in regard to practical application of a "packet approach." It is hoped that you will gain some practical and workable knowledge of packet education from this article.

In order for you to better relate to the situation, a brief history as well as the philosophy of Urbandale Community School is necessary. In the early 1960s the Urbandale Board of Education made a commitment to individualize its school system. With this commitment in mind, the administration and teachers began to individualize their curricula, beginning in the elementary grades.

In the junior high the teaching situation was what most teachers have experienced as a "conventional" classroom of 30-35 students. There are textbooks, lectures, worksheets, and tests, all attempting to keep the students at the same level. With the new students, products of individualized instruction, awareness of the range of learning levels was much greater than previously experienced. Therefore, the program had to be more individualized in order to meet the needs of these students.

Individualized instruction is (1) instruction that fits the learner, (2) a means for self-pacing, and (3) an opportunity to humanize education. It is NOT (1) turning students loose, (2) "plugging students in" to media, or (3) an end in itself. Individualized instruction cannot replace the teacher. On the contrary, more teachers are needed to make the approach effective.

In the Math/Science Department of the Urbandale Junior High

there are ten teachers and two para-professionals for a total of 600 seventh- and eighth-grade students. In this department, the following philosophy has been formed to meet the needs of the students, as well as the commitment of the Urbandale School Board to individualize the school system. "It is the responsibility of the junior high math and science educator to prepare today's child to live in a pluralistic society. The junior high school should be a unique experience in the education of the adolescent. Therefore, we believe that to fulfill our roles as junior high school math/science educators we must seek common goals. These common goals in a two-year program are (1) continuous progress, (2) problem-solving, (3) structured self-pacing, (4) activity-concentration and (5) self-motivation."

The ISCS (Intermediate Science Curriculum Study) program, which was developed at Florida State University, has been adopted because it most nearly coincides with goals for science at our school. The instructional packet has been chosen for science enrichment and to integrate the concepts of mathematics with the ISCS program.

The instructional packet is nothing more than an extension of the teacher through a highly structured outline of carefully selected media. Most of the packets are designed to teach a major concept or skill or a combination of both. However, some packets give guidance in determining what to study rather than actually teaching a concept. A course will have as many packets as necessary to teach the particular concepts.

The various types of packets which are used in individualized instruction are (1) self-contained packets, (2) activities keyed to textbooks, (3) audio-visual tutorial packets, and (4) mini-packets. The self-contained packet, as its name suggests, identifies the only things a student needs to learn the concept or skill the teacher is trying to set forth in that packet. No additional media are necessary for the student to learn the concept. A packet with activities keyed to textbooks is used when one desires a multi-text approach in teaching a concept. Information is gathered and put together in a packet which refers the student to the various resources. An audio-visual tutorial packet uses some kind of auditory or visual medium for communicating the concept the student is to learn in that packet. In most cases these packets are used for students who have some learning disabilities, for example, slow readers. This helps these students learn concepts they cannot learn in a "conventional" classroom. The mini-packet is simply a shortened version of one of the above. It usually deals with only one specific concept or skill. For example, "Interchanging Fahrenheit

Temperatures and Celsius Temperatures" is a packet which deals with only the two formulas necessary to make these conversions. A student needs to learn only these two formulas to acquire this skill.

The general format of a packet includes (1) a pretest, (2) the rationale, (3) behavioral objectives, (4) learning activities, (5) self-tests, and (6) a post-test. These categories are used to build any instructional packet. A pretest is used to give the teacher an indication of what the student already knows about the concept to be considered in the packet. It shows his strengths and weaknesses and enables the teacher to make a prescription, or assignment, which is personalized for that student. The rationale tells the student what he is going to do in the packet and how it will be of use to him in the near or distant future. Behavioral objectives are written so that the student will understand what he is to learn as a result of completing the packet. Learning activities in a packet include reading materials, problems, experiments, film viewing, and everything the student needs to learn the concept of the packet. It must be emphasized here again that for the junior high student these activities must be more than just reading and writing at his desk. Self-tests are included in the packets as a checkup for the student and teacher to see if the student is actually learning the concepts or if he needs further instruction at a given point. It also gives the student a sample of the types of problems on the final test. He will then know if he has mastered these before he takes the post-test. The post-test gives the teacher an overall evaluation and indicates whether the student should repeat parts of the packet or go on to a new concept.

Evaluation of the packets themselves is a continuous process. Student feedback during completion of the packets is relied upon as an indicator of the effectiveness of various parts of the packet. With these indications fresh in mind, one can make any revisions of the packet that are indicated. Revisions are necessary to keep a curriculum up-to-date. From year to year new ideas arise on how to present a concept or develop a packet. Therefore, yearly revision of packets is an important step in helping packets meet the goals for which they are used.

The Urbandale Junior High Math/Science Department has designed the packet format from the six steps above. The self-contained packet is used in order that the students can assume some of the responsibility for the learning. There is a title page which includes artwork and space for identification of the student, class, and teacher. The students are a good source for this artwork. Next is a pretest re-

lated to a prescription sheet. The results of the pretest are recorded on the prescription sheet. From this assignments are given in the packet which help each student learn the concepts. The rationale and main objectives, along with any special instructions, precede the learning activities. Learning activities comprise the main body of the packet. Subtitles and objectives are spaced throughout the packet as they relate to a specific learning experience. Explanations of each concept, with the major concept and including examples, are given here with problems and space for working them. After completing the work for each concept, the student takes a self-test or checkup which enables him and the teacher to know how well he is progressing in the packet. At the completion of the entire packet the student takes a post-test. With the results of this test he fills out an evaluation sheet.

The evaluation sheet consists of four parts in which the student rates himself on a 1-10 basis. The four areas which are evaluated are (1) academic work and/or laboratory procedures, (2) communication, (3) responsibility, and (4) post-test score. After the student has evaluated himself, the teacher then evaluates the student using the same categories. Together the teacher and student arrive at a score for the packet.

With packet education there is more enthusiasm on the part of the students than with other approaches. It is designed to let a student progress at his own speed, mastering one concept before going on to the next. Since many students progress with only occasional guidance and help, the packet approach gives the teacher an opportunity to spend more time with those students who need more attention.

If you are intrigued by packet education, the Urbandale Junior High Math/Science Department would like to extend an invitation for you to visit and see how it works.

ISTS MEETING

The 86th session of the Iowa Academy of Science will take place at Upper Iowa College, Fayette, on April 19-20, 1974. The Science Teaching section meetings on Friday and Saturday will be especially good this year, with 16 paper presentations covering topics in elementary, secondary, and college science teaching.

Don E. Murphy
Science Teaching Section Chairman
Iowa Academy of Science