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Signature Ruth Ann Peterson

Date July 30, 1971

DEVELOPMENT OF GUIDELINES FOR A PROGRAM OF INDIVIDUALIZED INSTRUCTION FOR THE PRIMARY GRADES

by

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TABLE OF CONTENTS

Chapter		Page
1.	INTRODUCTION	1
	Statement of the Problem	2
	Procedure of the Study	3
	Definition of Terms	4
	Limitations of the Study	5
2.	REVIEW OF LITERATURE AND RELATED RESEARCH	6
3.	SURVEY OF TEACHERS' ATTITUDES TOWARD INDIVIDUALIZED INSTRUCTION	38
	Classes Covered by the Survey	42
	Areas of Individualization	42
	Classloads and Averages	43
	Setting of Goals	43
	Growth of Children in Independence	44
	Most Valuable Equipment	44
	Most Critical Materials	45
	Use of Basal or Supplemental Reading Texts	45
	Problems Encountered in Individualization	45
	Evaluation of Children's Achievement and Progress	46
	Evidence of Positive Effects of Programs	47
	Special Problems Noted in the Program	48
	Progress Report to Parents	48
	Reaction of Parents to Program of Individualization	49
	Results of Survey of Students	49
4.	GUIDELINES FOR A PROGRAM OF INDIVIDUALIZED INSTRUCTION	53
	Whole Class, Small Group, and Individualized Instruction	53
	Survey of Individual Interests Among Children	54
	Physical and Psychological Changes in the Classroom	55
	Selection of Staff	57
	Training of Teachers	57
	Changes in Teaching Styles	58
	Teacher Objectives	59
	Record Keeping	60
	Materials	62
	Evaluation	64

Chapter Page

5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS 67

Summary 67
Conclusions 68
Recommendations 69

BIBLIOGRAPHY 72

APPENDICES 74

Appendix A 75
Appendix B 76

LIST OF TABLES

Table

Page

1. Survey of Teachers Working under a Program of Individualized Instruction 39

2. Survey of Five Fourth Year Classes on "How I Learn Best in School 51

ABSTRACT

The purpose of this study was an attempt to establish some guidelines for teachers, who are interested in doing a better job of teaching, through a program of individualized instruction in the primary grades.

Teachers who had experience in an individualized program were sent a questionnaire in order that the researcher could get their attitudes, ideas, and experience concerning grade level taught, class load, student-teacher ratio, classroom assistance received, progress reports to parents, areas of individualization, and the method of establishing goals.

This survey indicated a positive attitude among teachers, children, and parents of children in the programs toward their programs of individualization.

A survey of 120 fourth year students in five classrooms at Emerson School in Bozeman, Montana, on "How I Learn Best in School" was also made.

This study was limited to those programs of individualized instruction presently being carried on at elementary schools in Butte, Havre, Kremlin, Rocky Boy Indian Reservation, and Bozeman, Montana.

From the survey of teachers, it was indicated that classrooms should be kept small; and student-teacher ratios should not be more than fifteen to one. Children should be encouraged to set goals in desired subject areas and work independently toward the attainment of these goals. There should be many and varied materials, including manipulative devices and games, available to teachers and students; and teachers should be knowledgeable about curriculum in order to meet every child's needs.

Teachers should be encouraged to attempt programs of individualization using these guidelines and modifying them to meet the needs of the children.

It was determined by the survey and the review of literature and related research that most children learn better when they are actively engaged in the learning process, are happier and less frustrated without the restrictions of the traditional, structured classroom, and, through their own abilities and discoveries, can develop the ability to reason, to question thoughtfully, and to think for themselves.

Chapter 1

INTRODUCTION

Educators have always found themselves faced with the problem of working with children with varying degrees of learning ability, ranging from the mentally handicapped to the gifted, including the slow learner and the underachiever. Since most educators do feel an obligation to provide each child with the very best of learning opportunities, many teachers have met this challenge of individual differences by homogeneous grouping, the ungraded classroom, and grouping within the classroom.

However, even with these varied grouping procedures, goals of teachers are still not fully realized because of a "lack of real homogeneity in children." (18:7-8) A child who is an outstanding student in reading may have very little competence in mathematics. A very bright child may have no creative ability. A child with only average ability or below may show capabilities in the field of music or mechanics. For this reason, grouping children according to reading ability does not tend to produce the best from every child and is, therefore, not the best answer to all of children's educational problems.

Each child should be looked upon as a truly important individual, and each must be presented with many opportunities for achieving success in order to experience pride in himself and satisfaction in his accomplishments. As the child becomes more self-confident, he grows in independence and self-direction. (16:19-20)

While it should be stressed that there is a need for quality and quantity in education, it must be recognized that good education cannot be offered on an assembly line basis. To stimulate children to work to their capacities and with an attitude which develops a good self-concept, a major teaching goal is to get each child more actively involved in learning activities for the development of skills and concepts appropriate for him.

The main objective of the individualized approach is the fullest development of a student's skills and capabilities. (4:234)

A program of individualized instruction is one method of teaching which will help to accommodate the many differences found among children in the classroom, stimulate each child to give the best that is in him, and develop in him independence and self-direction.

STATEMENT OF THE PROBLEM

The purpose of this study is to establish some guidelines for teachers, who are interested in doing a better job of teaching, through a program of individualized instruction in the primary grades.

Some teachers are quite reluctant to deviate from their traditional, structured teaching procedures. It is hoped through this study to encourage teachers to try a program of individualized instruction.

By changing teachers' attitudes and modifying their classroom procedures, children can be motivated to develop independence in problem

solving and creative thinking. Teachers can substitute discussion for the lecture method. By creating a measure of success in all students, boredom can be minimized. Creative learning centers can replace the dreaded dittoed seatwork sheets. Teachers can guide students toward active participation in all areas.

Fairman (9:136) is convinced that through the uiltization of varied individualized learning materials, the use of a multimedia approach, and a greater utilization of paraprofessional or volunteer personnel, the teacher will become more personally involved with the learning of each child. As a result, the student will become more responsible, perceiving, self-directing, and self-educating, thus enhancing his success with both his present and his future learning.

Teachers can accomplish all of these factors through a program of individualization if they have the incentive to try, the courage to make the change, and the willingness to work with youngsters who have a desire to learn.

PROCEDURE OF THE STUDY

The researcher made a review of related literature on the subject of individualized instruction. A survey of teachers conducting this type of program was made. A survey of children in the five fourth grades in programs of individualized instruction was also made. As a result of these, the researcher set up certain guidelines to assist teachers in

establishing a program of individualized instruction. The researcher also drew certain facts from her experience with first and second year youngsters working under a program of individualization during 1969 and 1970.

DEFINITION OF TERMS

Individualized instruction is a term describing a type of educational program which attempts to provide each child with a somewhat unique set of learning experiences. It emphasizes the development of each individual at his own level of learning and at his own rate of speed. The student takes the responsibility for the areas of study he desires to pursue and the time he wishes to devote to each area.

Differentiated instruction is a term which applies to recognizing and accepting the different learning needs of children in the classroom and modifying methods of instruction to meet these needs.

Individually Prescribed Instruction, often called the IPI system, is a program consisting of many teachers and teachers' aides using many worksheets to carry out many objectives which have been established for reading, mathematics, and science. This program was originally set up at the Oakleaf Elementary School under the supervision of the University of Pittsburg.

LIMITATIONS OF THE STUDY

The study of programs of individualized instruction was limited to the following programs already established within the state of Montana--namely, Highland Park Elementary School and Devlon School, both of Havre, Montana; Rocky Boy Elementary School, Rocky Boy Indian Reservation; Kremlin Elementary School, Kremlin, Montana; Blaine Elementary School and Washington Elementary School, both of Butte, Montana; and Emerson Elementary School, Bozeman, Montana.

The survey of students was limited to five fourth year classes at Emerson Elementary School, Bozeman, Montana.

The review of related literature was limited to the reference material available in the Montana State University Library and the researcher's personal library.

In reviewing related literature, many different interpretations of individualized instruction were found. This study was limited to only those facts considered pertinent to the development of guidelines for a program of individualized instruction in the primary grades.

The first step in this study was to review related literature and research on individualized instruction. This is reported in Chapter 2.

Chapter 2

REVIEW OF LITERATURE AND RELATED RESEARCH

Because children are truly different, instruction for them must necessarily take these differences into account. (19:4) Ideally, individualized instruction is a program which makes it possible for each student to be engaged in learning all of those things which are most appropriate for him as an individual. (8:1)

The commitment to individualized instruction is based on the following hypotheses about children and learning as stated by Stahl and Anzalone (16:24):

> (1) There are many patterns of learning and no one method meets the varied needs of all children. It is vitally important to provide alternatives in the educational program.
>
> (2) The teacher cannot tell a child how to think, but must provide him with the freedom, the encouragement, and the opportunity to do so.
>
> (3) Learning is an active, not a passive, process and must involve participation in a task rather than mere absorption of information. As a result of learning there should be a change in pupil behavior or no learning has taken place.
>
> (4) Children are consistent in their need for success experiences but vary greatly in their levels and rates of achievement.
>
> (5) Discovering and developing uniqueness in individuals is a major goal not to be thwarted by ignoring or minimizing differences.
>
> (6) Setting goals and evaluating are the privilege and the responsibility of the child and are essential to

long-term learning. Teachers must not let a marking system distort evaluation.

(7) Children learn from each other through observation, imitation, and cooperative consideration of a mutually challenging task.

(8) Learning is both positive and negative. When the activity does not fit the child's unique personal need, negative learning is certain to occur.

(9) It is more important for children to practice self-control than to be controlled by an adult authority figure.

Hunter, principal of the University Elementary School at UCLA, stated:

> Individualized instruction is one of the most popular and most misunderstood concepts in education. It is no one way of conducting education, nor any one special program. It is the process of "custom-tailoring" instruction so that it fits a particular learner. It is not necessarily different for each student, but it must be appropriate for each student. (12:53)

Individualized instruction is not an end in itself but an effective means for achieving student learning as well as increasing student learning. It is an approach which begins where a student is able to perform and moves systematically toward better academic performance. (12:54)

The term does not mean that students get by with doing less work nor that each student must work individually. It means that the teacher identifies, on the basis of the student's learning needs, each student's instructional level and starts him at that point on his own or in a group. The subject areas remains the same, but the teacher demands different levels of thinking from each student. (12:55)

In the review of literature and related research many different kinds of individualized instruction were found, ranging from one which individualized a single subject area within a structured classroom to ones that individualized whole classrooms, others that instituted a program within the entire school, and still another which included several schools within a state.

One of the more complex programs of individualized instruction was conducted at Marshall High School in Portland, Oregon. The basis for all phases of the Marshall program is the recognition that each child must do his own learning. The instructional program was organized so that each of the school's 2,200 students was able to adjust the program to fit his own particular needs. Therefore, the curriculum was adapted to the student. The implementation of this program would have been impossible without the aid of computers, however. (13:2)

Prior to the 1963-64 school year, department chairmen and teaching-team leaders attended a ten-day workshop; and the entire staff at Marshall began the school year two days early for a general workshop to learn the techniques of "large group presentation, small group activities, and independent study." (13:5-6)

The Marshall program received a sizable financial grant to help with the cost of pioneering the venture, particularly for in-service education of staff and instructional assistance for the teachers. Dr. Dwight W. Allen of Stanford University assisted with the computerized

modular-flexible schedule, and it was in August of 1963 that Stanford University provided the first computer-generated school program for the Marshall school. Scheduling is still being done at Stanford University using the IBM 7090 Computer. (13:7)

An example of a schedule is shown below:

> Mary Jones has 40 modules of unstructured time during the week, and she may use these in any of all of the following ways:
>
> Work in an open lab (home economics, foreign language, biology)
> Study in the library
> Study in a resource center (seven available)
> Hold a conference with her teachers or counselor
> Relax in the student union
> Participate in a prerogative (noncredit, enrichment) course
> Pursue independent study project (possibly off campus)
> Visit interesting classes (large or small groups)
> Serve the school in the capacity of teacher assistant or assistant to a resource-center aide (13:10)

A freshman student who needed more direction would have less unstructured modules and more teacher-directed activities.

Teachers working under the program have had the opportunity to experiment with how students learn best. The open-laboratory concept seemed to be accepted by a growing number of teachers. Instructors found that, given the opportunity, most students became responsible, to a large degree, for their own education.

Thousands of educators have visited the Marshall school in the past eight years, and they have been "overwhelmingly favorable to the theory and practice of this institutional system." (13:14)

The program was not a static one, and changes in the program will be continued--changes directed to the goal of individualization of teaching and learning so the unique potential of each student can be developed as far as possible.(13:180)

This elaborate program would not be appropriate for primary level schools; but it was cited here because the end results are the same as those hoped for at the primary level; that is, children learning to be self-directed and school becoming more interesting for teachers and students alike.

Another one of the more complex programs of individualized instruction is the open-concept plan. One of New Hampshire's first open-concept schools was one constructed almost completely without inside walls. The philosophy behind this concept was to make grouping and regrouping of youngsters easier so students and teachers can communicate with each others, for team teaching, and for students to receive individualized instruction. The school was composed of 640 youngsters, including disadvantaged children from a new urban renewal area, middle class children, and a few youngsters from affluent homes. (20:13)

Interpersonal relationships were the school's biggest problem--teacher-to-student as well as teacher-to-teacher. The children began to adjust to one another, but some of the teachers had some problems. These teachers, used to working with children from middle class homes, had to develop a sensitivity to all of these children's needs.

Relations within the community posed problems too. Concerned principals of the now six New Hampshire open-concept schools formed a group called Project SOLVE for the purpose of "retaining staff and disseminating their cumulative knowledge." (20:13)

Funds from the Federal Title III Program helped meet the needs of the children and set up training programs for teachers. Charles Kadel, Project SOLVE director, listed eight components of a program of individualized instruction: Team teaching, flexible time patterns, flexible groupings, independent study programs, tutorial instruction (children tutored by teachers or other students), prescriptive techniques, continuous diagnostic testing, and multimedia experience (learning through touching, seeing, hearing). (20:14)

Other problems which the Project encountered fell within the areas of teacher training, teacher-student relationships, and parent and community relationships. Kadel stated that staff development was the most critical requirement. (20:15)

Another problem in the development of the open-concept school was the adjustment of the students to the new kind of freedom found there. Teachers found several practices which helped children adjust to their new environment. One favorable practice was letting children make their own decisions and holding them accountable for those decisions. Another practice was the suggestion box which was found to bring valuable feedback from the students.

Still another adjustment which had to be made was brought about by the absence of desks. This was solved by having individual boxes stored on shelves for the children's personal belongings.

To help with public relations within the city, Project SOLVE contracted with a public relations service to "disseminate information on its six open-concept schools through newspaper, radio, and television media." (20:15)

The State Department of Education and the Legislature were considering a "career ladder plan under which nonprofessional people could enter the school system as teachers' aides and advance through a training program to teacher assistant, teacher associate and finally to certified teacher. (20:16)

Now that the open-concept school had solved some of its problems, teachers in the project believed that children in the open-concept school got along better with one another. These children were learning to think in terms of the group, not just themselves. They talked openly about real problems. Tensions and anxieties had greatly decreased. Perhaps the most important development was that the children understood that freedom meant responsibility on the part of themselves and acquired a sense of worth through experiencing success.

Congdon Park Elementary School in Duluth, Minnesota, set up an instructional program in its fifth and sixth grades in an attempt to answer the question: "What would formal schooling be like if it

seriously tried to reach the ideal of educating every child according to his own personal inventory of abilities, needs, and interests?" (8:15)

Project Congdon began in the fall of 1964 with four teachers, all volunteers; 120 fifth and sixth graders normally in attendance at Congdon, who as a group were high achievers; a principal dedicated to the success of the program; and a director of special services who acted as liaison between Project Congdon and the central office of the Duluth Public Schools.

The instruction was individualized, made possible through the use of a large assortment of instructional materials and devices. The key thought behind all instructional arrangements was flexibility. (8:19-20)

Student contracts were in the form of individual lesson plans designed for one week's work. Each student worked at his own rate of learning; and as he finished one contract, he was given another. Each student was encouraged to decide for himself how he could best complete the assignment. Tests were administered to check on completed contracts of each student, and his progress was used as a guide for further assignments.

The Iowa Test of Basic Skills was used to assess the project. Fifth grade students as a class scored at the 92nd percentile and sixth grade students at the 98th percentile. However, since a control group working in a traditional self-contained classroom did nearly as well, these gratifying results could not be attributed solely to the learning

environment of the project. The significant point was that it made it possible for those students in Project Congdon to grow in ability to organize their own learning activities and to acquire the skills of independent inquiry. (8:21-22)

One noted weakness in the Project was the fact that teachers retained the use of the standard report card, the traditional method of reporting to parents. They realized the necessity of devising some kind of basic skills achievement record and developing a system that would enable them to report "student accomplishment of specific instructional objectives in terms of observable performance." (8:23)

County Supervisor Fred Toman said of the project that it was a delight to see children fully committed to an active role in learning, taking responsibility, working diligently at their own pace, and best of all, enjoying school. (8:25)

After the success of Project Congdon, Duluth educators raised the question, "Would the program work with other kinds of kids?" (8:27)

The Franklin-Nettleton Project was set up at all grade levels, kindergarten through sixth grade. The more than 500 students, considered deprived, attending the two schools were introduced to the individualized instruction approach to education; and from their point of view, learning had become more fun.

Teachers received the assistance from students from a senior high school individualized instruction program who came to the Franklin and

Nettleton schools on a regularly scheduled basis to help the younger students achieve their contract objectives. Also the abler students often helped the slower ones. The conclusion of the teachers was that student-to-student teaching is a "powerful mode of instruction and should be widely employed." (8:70)

The youngsters in the primary grades were on fixed time schedules, while students in the fourth, fifth, and sixth grades were self-scheduled for the most part. With the exception of music and physical education, each student was free to decide for himself when and how long he wanted to work on a given project. Of course, he was obligated to complete his contract. Contracts were assigned in simple numerical sequence, booklet by booklet. Teachers in the project hoped to be able to develop a better contract assignment system. (8:62)

Educable mentally retarded youngsters from the two schools also participated in the project. These children were placed with other children of their own age group, but the educational materials they used were geared to their own learning capacity.

Instructors in the Franklin-Nettleton Project felt that the single most valuable piece of equipment they used was the tape recorder, and each teacher had one at her disposal. The film projector with a small screen set up at one end of the room was also a good instructional arrangement. Another piece of equipment found particularly useful was the Bell and Howell Language Master and its "talking cards." (Other companies now offer a competing product.) (8:74)

Unique to the Franklin-Nettleton Project was a simple attitude survey which was conducted by some of the teachers among students and parents.

The following was a statement sent to the parents:

I feel that my child's school experience this year is benefiting him/her (check one of the following):

more than _____
same as _____
less than _____ it did last year.

Out of 177 parents surveyed, 101 responded. Seventy-four per cent checked "more than," 19.8 per cent checked "same as," and 6.2 per cent checked "less than." Of the 67 Franklin parents surveyed, 49 responded. Seventy-four per cent checked "more than," 18 per cent checked "same as," and 8 per cent checked "less than."

The following was the survey presented to the students:

I have enjoyed school (check one of the following):

more than _____
same as _____
less than _____ I did last year.

Of the 177 forms given to the Nettleton students, 161 were returned resulting in "more than," 77 per cent; "same as," 13.7 per cent; and "less than," 9.3 per cent. The Franklin results were "more than," 72 per cent; "same as," 12 per cent; and "less than," 15 per cent. (8:72)

The faculty members and school officials felt that the Franklin-Nettleton Project has become "an opportunity to give individual help to

each pupil according to his capacity, to tailor assignments to the student's needs, and to help the student advance at his own rate of learning." (8:57)

South Elementary School in a suburb of Grand Rapids, Michigan, encountered several problems in initiating its program of individualization.

According to Bergeson and Roettger (3:70), one of the most difficult problems in getting started is initiating the system with youngsters who had been conditioned to the traditional classroom with traditional controls. A particularly effective technique for alleviating the problem was student involvement. Once youngsters were made aware of goals and objectives for the class and were involved in some of the planning, students participated in nearly all of the decisions. This student participation resulted in self-motivation, which in turn produced more effort toward educational activity.

Another phase of getting started in the South Elementary School was the teaching, in a structured situation, of the special skills that seemed necessary for the students to work independently. After a short time it was found that the structured sessions could be gradually eliminated until the individualized approach became a fact rather than merely a theory. Student pride in the classroom resulted from this interaction. Students began to feel they were special; and as a result, anyone who deviated in terms of class conduct felt the brunt of peer pressure. (3:70)

A student transferring into a class using the individualized approach in South Elementary School realized the peer pressure of this classroom. He had been labeled a discipline problem in his previous classroom; but very shortly after he was admitted to the independent study class, his behavior approached the level of the other children. Students told him to "shape up" and "get organized" and then taught him the system for independent and group work and the skills he needed to function effectively. He was then accepted by the other youngsters and in turn accepted the system without the teacher ever having to intervene. (3:71)

Two other areas proved to be trouble spots--record keeping and scheduling. Score cards were kept on each student, one by the student in a file for reading and the second for other subject areas. On these score cards each student recorded his weekly goals and his accomplishments.

Scheduling was worked out by student and teacher cooperatively. Although reading was always scheduled in the morning, other subject areas were scheduled when and as the student desired. A few students preferred a structured program. (3:71-72)

Bergesen and Roettger listed the results of this individualized program:

> (1) Children developed greater self-confidence, trust, creativity, and initiative, while anxiety decreased. Cheating diminished and was no longer a problem.

(2) As children became more involved, more interaction among youngsters became evident. More desirable social behavior was fostered, with a concomitant rise in self-discipline.

(3) Because each student was allowed to succeed, interest and desire for academic-related activities increased.

(4) Rapport between teacher and students developed to such a degree that personal conferences were almost always constructive and academically rewarding.

(5) The children and the teacher became more relaxed. As a result perception increased, along with a rise in academic risk-taking. The children and the teacher felt free to step beyond the known and into involved problem-solving behavior.

(6) Children challenged each other in healthy ways--the child who "lost" did so without losing face.

(7) The above behaviors were fostered concurrently with a rise in academic achievement. (3:72)

Another different type of individualized instruction has been demonstrated at Rye, New York. Osborn School is a kindergarten through sixth grade school; however, instead of having kindergarten through sixth grade levels, it had classrooms operating on 14 different ability levels. The program, aimed at a one-to-one individualization of instruction, began in 1962 and is still being improved.

There were no silent halls and no sealed-in classrooms of the traditional school. Never in a traditional school could one see so many things going on at the same time in one classroom. One could not help noticing the mixture of ages. It happened because as soon as a child is ready, he moves on to another level. There were always children "on the

loose--on the way to the library, another classroom, or wherever else the quest for knowledge takes them." (10:84)

In a traditional school youngsters were taught first and then tested. At Osborn they were tested first to find out where they were and then taught.

An Osborn child may have stayed in one classroom for the entire year, or he may have traveled through three or four levels. If he was bright, he may have completed all 14 levels of ability; but he didn't have to to qualify for junior high school. Because the promise of immediate advancement was always there, students tended to try a little harder. There was no failure, only slow and fast progress. (10:83)

The teacher was as much a guidance counselor as an instructor. She was constantly evaluating, diagnosing, and prescribing.

As far as records were concerned, the teachers at Osborn had some ingenious methods. One used an elaborate system of bar graphs to indicate where each child is in each curriculum area. Another teacher devised a simpler method of keeping a day-to-day record by stacking workbooks in a certain way. (10:85)

Osborn's approach made special demands on its teachers in such areas as (1) reports to parents, which were individually written reports used instead of report cards; (2) curriculum development, which was a continuing process, and teachers were asked to participate; and (3) materials selection, since each teacher must of necessity know more about a wide range of materials. (10:85)

Sharing and comparing between classrooms, on the part of teachers as well as students, was encouraged; and classroom doors were always open to facilitate the "easy come, easy go of pupils and ideas." Teachers worked together because there must be a continuity of instruction. (10:85)

Curriculum was designed to provide for easy transition from one level to another. Osborn's teachers encouraged students to decide what they wanted to learn. There was never a "who" or a "when" question asked, rather the "what do you suppose?" kind of question was a typical question designed to get youngsters into the act. (10:86)

The schools aim was not so much to teach children facts as it was to teach them to think and probe. The program was divided into only three major curriculum areas. Reading and mathematics were considered separately, while everything else fell under the "inquiry process" label. Children were judged, not on the basis of how many facts they accumulated, but on their progress in skills that demonstrated their ability to think and to find out and use information.

This individualized instruction approach to education was being accomplished without the benefit of fancy machines and other expensive materials. The key factor was the overhaul of the school machinery, experimentation in the classrooms, and teachers willing to work as they have never worked before. One teacher pointed out that "You'd be crazy to work this hard for money. It has to be a labor of love." (10:84)

For both students and teachers, Osborn's principal, William E. Turner, said, "Osborn is where the action--and teaching and learning satisfaction--is. (10:86)

Rocky Boy Elementary School on the Rocky Boy Indian Reservation individualized its program in kindergarten through sixth grade. The emphasis of its program was placed on child-centered activities rather than on teacher-directed lessons. The goal of the school was helping students reach some understanding of the meaning of their own lives. The child-centered curriculum was a unified curriculum organized around children's interests, both in their own activities and in society's major functions. The method of instruction was largely the activity--the carrying on of student-needed, student-planned, student-oriented, and student-evaluated activities.

The Sullivan Reading Program materials were being used quite successfully in the lower grades. However, some of the older Indian boys and girls in the fifth and sixth grades were having some real problems in reading at the first and second year levels. Because they were meeting so little success at these levels, they were embarassed to read before their peers; and as a result, their self-concepts and incentives to do better were very low.

The IPI mathematics program was being used at Rocky Boy. The teachers themselves wrote the social studies curriculum in unit form, and the children could choose the units on which they wanted to work.

Most of the teachers at Rocky Boy were pleased with the results of the program of individualization; however, three of the eight teachers felt that not much progress was being made in their rooms due to the lack of curriculum guides for various grade levels. They also felt the students did not know quite what was expected of them. (21)

Rudder (15:79), in her experimental program with a single classroom in Queens, New York, began by changing the physical environment of her classroom. Just before school commenced in the fall, she created an atmosphere of freedom for discovery in her room by setting up four subject-centered areas--a mathematics laboratory, a science laboratory, a reading section, and a creative writing section.

The mathematics section contained many materials to assist children in learning various mathematical concepts. There were rulers, yardsticks, measuring tapes, cup and quart containers, and thermometers. She also included such devices as geo boards (to discover geometric shapes), Cuisenaire rods, and books and math games for all levels.

The science laboratory was set up similarly with materials and equipment designed to encourage exploration. Materials included a microscope with prepared and blank slides, rocks, plants, research materials, household items such as salt and pepper, and many other tools and substances.

The reading section, probably the most comfortable in the room, was fitted with a round table, shelves of library books and magazines of

high interest at reading levels from one to twelve, and various word games, which included Scrabble and Password.

The creative writing section, somewhat secluded from the rest of the room, was organized to encourage and facilitate creative writing; and it contained dictionaries, a typewriter, and many pictures to stimulate creative work.

A little later such things as a record player and records, filmstrip projector and filmstrips, maps, a globe, books about other lands, and an art corner were added.

When the children arrived the first day of school, they began discussions about how to use the activity centers. As they explored and found things of interest, excitement grew. Children learned to handle all of the equipment in the room and to work effectively in small groups and individually. (15:80)

The program gained momentum as children realized they could work at their own pace and in their own way and could initiate their own activities.

Rudder stated that her program of "individualization has proved that we must have faith that children do want to learn and that they will learn when they are ready to." (15:80) The children became capable of discovering concepts and have learned how to think and solve problems.

Carrier (5:79) experimented successfully with individualizing in his class at Eurekadale Elementary School in Taylor, Michigan. This was

a fifth grade class, but some of his ideas might well apply at the primary level.

His first step was to rearrange the physical aspects of his room into four main centers--reading, science, mathematics, and social studies, with each center having appropriate materials purchased or made.

In mathematics, preliminary and final tests were devised for five aspects of arithmetic: adding, subtraction, multiplication, division, and fractions. A unit was developed for each mathematical concept containing ten packets ranging from easy to difficult. Work was corrected and progress checked on charts by the students. A unit test had to be passed before the student could progress to a higher level.

For the ungraded reading program a commercial reading laboratory kit was utilized.

In the language arts center, story starters were used to encourage creative writing. After some success was achieved with this approach, the students created stories from their own ideas.

For social studies the class used the assigned text book for reference. Students chose their own subjects that interested them to explore.

The science center contained the necessary items for experimentation which students could check out, use, and report on their chosen experiments.

Regardless of the subject area or the level, the teacher allowed for individual abilities and potentials.

Carrier stated that "even with limited professional freedom, classrooms can be rearranged and methods adapted to facilitate more effective ways of teaching children." (14:79)

One program of individualized instruction was initiated in a single third grade classroom of 22 children, with IQs ranging from 67 to 130. Several of the children had physical problems. The instructor was an inexperienced first-year teacher, who was completely baffled with the class because it seemed to be getting nowhere. When the situation became desperate, she abandoned the traditional approach and struck out on an adventure in individualization thinking the only successful way to deal with such a diverse group was to let each pupil progress at his own rate. She felt the system could work if she could get the class to form a cohesive, cooperative group. (7:357)

The students wrote poetry, produced plays, took field trips, wrote books, prepared creative word lists, had panel discussions among themselves, invited guests to speak, talked about one another's problems, did science experiments, and made periodic self-evaluations. (7:359)

The teacher found that spending less time correcting papers and more time with the children increased her ability to diagnose each child's difficulty and evaluate how far he had gone. She began to rely more and more on the students' evaluations of themselves. (7:359)

At Emerson School in Bozeman an experiment in individualized instruction began in February of 1969 with a class of 31 first graders and was carried on through their third year.

A workshop had been conducted in Bozeman by Dr. Maurice Rosenberg, consultant-psychologist at the University of Missouri at University City. This workshop presented a number of challenging questions. Did six-year olds really know what they wanted to get out of school? Could they establish their own goals in specific areas? Were they able to work independently to attain these goals? These questions brought about a new look in the classroom and a drastic change in teaching techniques.

The teacher began by asking the children if they could tell just what it was they wanted to get out of their first year in school. It was amazing to discover that most of them had very definite ideas on the subject. Reading was by far the most important to most youngsters. Others included "making friends," "lots and lots of math," and "science, science, and more science." Music and art were uppermost in the minds of a few. One child said he wanted to do all the things he must do "to be able to grow up and do things on my own."

The next thing that had to be done was rearrange the physical facilities in the classroom. There was a language arts center set up near the chalk board with shelves for reference books and dictionaries. There was not a sufficient number of tables available so desks were pushed together to form table surfaces. The desks were used merely as places to store the children's belongings. There was a math center, again using desks pushed together to form a table area, near a chalk board, with a flannel board and storage cabinet in which aids for mathematics were kept.

There were two reading centers--one a table near a portable chalk board where children could be brought together in small groups for specific reading skills, the second a highly desired round table where children could work on an individual reading program (in this instance the SRA reading program)or where individual or group conferences could be held.

The teacher's goals were similar to those of any other educator:

> (1) To provide an atmosphere which would instill in each youngster the desire to perform to the best of his ability;
>
> (2) To relieve the tensions and frustrations so often found in youngsters during their early years of school; and
>
> (3) To induce independent and creative thinking in problem solving and decision making. (1:18)

Each Monday morning the children set their own goals for the week ahead. Most youngsters would rather set a goal they were certain they could attain or perhaps, in some instances, surpass, than set a goal they knew they could not attain.

They chose their own spelling words--some deciding on twenty words, some fifteen, and some more cautious ones who felt they would rather master ten words than fail at twenty.

A group of three or four youngsters chose a science lesson and with some help from the teacher planned the experiment, did the necessary research, demonstrated the experiment, and then wrote it up.

For reading each child decided how many stories he could cover in a week's time. (A basal text was used because these children had to be tested over this text along with other youngsters in the system.) The teacher called together groups when necessary to present specific reading skills and to reinforce others. The groups were very flexible and varied in size, the children moving from one group to another, depending on where they were in their reading text and on what specific skill they needed at the moment.

Testing was done in the same manner--whenever the child was ready or whenever diagnostic measures were felt necessary. The word "test" was used, and no one panicked at the sound of it.

The children went as fast and as far as they wanted to go until they came to a new concept, and then these concepts were presented to those who were ready for them.

The children did stop in necessity for regularly scheduled visits from the music and physical education coordinators for daily periods in physical education in the gym and for the introduction of an art lesson.

On entering the classroom one could find some children working on math, some practicing spelling words, or some writing an unassigned creative story or poem. Some youngsters would be examining a science display or preparing for a science demonstration. Still others would be working in the SRA program in the reading center or others would be

helping children with a problem in math or getting started in a higher level in SRA. It took a little while for the children to realize that they could help one another without actually giving them the answer. On the floor in a corner by themselves, one could see two children playing a word game or a mathematics game, practicing spelling words, or using flash cards. Still another corner was used for the EDL Controlled Reader and carrels for the children's listening pleasure.

The teacher, in the meantime, was working with a group of youngsters on reading skills, listening to oral reading, or moving among the youngsters to assist them individually when help was needed. Workbooks were corrected by the teacher and the children were asked to correct their mistakes and return the workbook to the teacher.

A chart posted on the bulletin board, using color coded diagonal lines, crosses, and red dots, indicated where the children were working in reading, which assignments had been completed, and the areas in which they needed help.

The classroom was not a quiet room; it was a "buzzy" room, and the children moved about at will. There were only two rules: (1) the children could do whatever they wanted to do whenever they wanted to as long as they kept no one else from working, and (2) they must always let the teacher know where they were going whenever they wished to leave the room. (1:19)

Periodically, there were talks with the children individually or in small groups in order that each might evaluate his work, his progress,

or talk about his problems. The children talked quite frankly about their progress and their problems and were quite humble about their achievements. They neither hesitated to come for help nor to go on their own when they were able. They were quite frank to admit when they did not understand.

At the end of the second year, to assist in an evaluation of this program, a questionnaire was handed to parents. Twenty-one of the 31 questionnaires were returned. Conferences with the parents at the end of the school year were felt would have been more valuable, but time did not permit.

The following is a recapitulation of information received in the questionnaires:

(1) All parents commented that they felt children received sufficient individual attention in all areas.

(2) All parents felt the children advanced as far as they might be expected, except one who felt her child might have progressed farther in mathematics. (The teacher felt this child might have progressed farther in mathematics had she been as interested in this subject area as she was in other areas.)

(3) There were very few instances of tension and frustration after the program got underway. Competition, as it appeared in the classroom, was created only by the children themselves.

(4) All comments indicated that children had an optomistic attitude toward school.

(5) Most parents felt the children were able to work and think more independently in tasks outside of school because of their experiences within the classroom. Two comments indicated that maturity might have accounted for part of this growth in independence.

(6) All parents who visited the classroom felt the children were adequately challenged in all areas.

(7) When asked for suggestions which might enhance the program, there was a suggestion that more outside speakers be brought into the classroom. A guest-of-the-month idea might be incorporated, since the Bozeman area could utilize services in many areas from Montana State University.

(8) All questionnaires returned indicated enthusiasm and approval of the program of individualized instruction. (1:19)

The teacher felt two areas might have improved the program--more frequent student-parent-teacher conferences and parent-teacher conferences to replace nine-week period report cards.

Some of the other Bozeman teachers began using modified versions of an individualized instruction program, using techniques for only part of the school day or for specific classes only. Some tried to individualize their program but went back to the traditional type of classroom instruction. To be successful, Mr. Swenson, principal of Emerson School,stated the teacher needs to be sold 100 per cent on the merits of the program. It is not an easy teaching assignment and does not adapt to all teaching personalities. (1:19)

Still another approach to individualized instruction in a single subject area was the IPI system, developed at the University of Pittsburg and practiced at the Oakleaf School in Pittsburg.

IPI worked toward managing instruction so that every child's work could be both evaluated daily and guided by a teacher-written

prescription--a plan for the student to improve and master a particular skill or objective.

IPI did not drastically change what was done in school or how it was done. Youngsters did not learn a different curriculum, but they were introduced to an approach to learning in which the learner was the focus where the student moved at his own pace in his own style. The IPI teacher ceased to be a performer and group disciplinarian and became instead a diagnostician, prescriber, and guide to the special learning progress of the student. (6:45)

Oakleaf in Baldwin-Whitehall, a Pittsburg suburb, was an exciting place for a variety of reasons. Its administrator and teachers displayed an enthusiasm and openness about their work which was sometimes rare in school circles. The feeling of motivation was equally strong among the students. A second grader moved with determination down the hall on the way to the library to find a book he needed; a third grade girl made an appointment to practice skills on an IBM telescoping console; two imaginative boys played math games set up in one of the rooms. In a large room with panels pushed aside, 60 youngsters worked independently or in groups of two or three on worksheets for the IPI mathematics program. (6:45)

At Oakleaf, charting learning through daily prescription assignments was not the sole job of the teacher. By the time they reached the fourth grade, some youngsters had become self-prescribers.

Some critics complained that IPI materials were too complicated and the program itself too expensive and that the program itself eliminated healthy classroom competition and prevented desired student interaction. Yet the flood of requests for the program keeps growing. In 1970 there were 50,000 IPI youngsters in 175 schools. Except for a very few demonstration schools which receive outside financial help, school systems paid for the growing IPI program. In spite of many tight budgets, most principals said, "IPI is here to stay." (6:46)

Some teachers have individualized a reading program with their structured classrooms. These teachers worked individually with boys and girls in what appeared to be a group setting. Each student worked independently of the others, but most children prefered working together while doing individual work. They often listened to each other read.

Working with children individually in reading gave the teacher an opportunity to observe the child's mannerisms, strengths, and weaknesses. She could note tension and gave him the self-confidence and sense of security he needed. The group approach could still be used to attain desired goals. Certain children could be brought together in a group when it was apparent they had a common need for practice in a particular reading skills, or they could meet together to read a book in which they shared a common interest. (18:256)

In initiating an individualized program in reading, approval should first be obtained from the principal. It helped to have several

teachers working together in such a program; however, there were schools in which a successful individualized reading program was limited to a single classroom. (18:261)

At the very beginning the children were oriented to the roles they would play in the new type of classroom organization, such as the reasons for the change, the establishment of goals and objectives, the handling of new equipment and materials, and the places where materials could be found. Disciplinary problems usually soon disappeared when youngsters began to find enjoyment which came from successful reading experiences. Frequent planning and reporting sessions assisted the teacher in maintaining a close check on the student's progress.

The program was continually evaluated on the basis of pupil achievement. Tests could be administered as a supplement to teacher observations, checklists, and special inventories of reading skills, interests, and basic needs. (18:262)

An individualized reading program is not an unguided and undirected program. Teachers have discovered that the individualized reading program calls for more skill and understanding then some teachers possess. To be a success, the teacher must accept a large amount of responsibility for the reading program. She must know the basic principles of child growth and development. She must be ready to identify reading difficulties and know enough about reading to assist the children with these difficulties. She should be familiar with children's interests and the

types of literature that appeal to different age levels. She must be a good organizer, because the pattern of classroom organization must be planned to most effectively permit pupils to reach their maximum levels of growth. (18:257)

There is still a chance of failure in an individualized reading program since this type of program is not necessarily the answer to all reading problems or fitted to all children. Studies of children who have gone through an individualized reading program showed both high and low pupil achievement. In studies that compared achievement or reading growth in a structured program and an individualized program, abilities of children had been equated but not abilities of teachers. Teacher experience, competence, skill in diagnosing children's needs, and interest in children were factors that could make a difference in achievement. In one study a number of second grade youngsters in an individualized reading program in a California school showed significant growths in reading when results of standardized tests were compared with those of children in a control group. (18:258)

Thomas and Crescimbeni (18:259) stressed the need for time allotted for recreational reading in the individualized program in addition to time given to the mastery of reading skills and reading for information. Children need opportunities to read independently without having to account to anyone for what they read. However, a book read independently may become the basis for a book report or a sharing activity may meet the need for oral language or listening experiences.

If the individualized reading program was to be successful, the following recommendations, according to Thomas and Crescimbeni (18:264-265), should be considered:

> (1) Goals of the teacher should be consistent with the broader goals of the school.
>
> (2) Reading should be given priority at all grade levels.
>
> (3) The teacher must be prepared to teach reading skills appropriate for reading achievement levels of all students.
>
> (4) Sufficient reading materials should be available for all phases of a reading program to make it a complete reading program.
>
> (5) Teachers should be prepared to meet the individual needs of all students.
>
> (6) Elementary children need daily periods of instruction in basic reading skills. This may be accomplished through team teaching, the use of teaching machines and special teaching aides, as well as working with the teacher.

The next step in this study was to survey teachers who worked under a program of individualized instruction at Kremlin, Butte, Havre, Rocky Boy Reservation, and Bozeman, Montana. The results of this survey are reported in Chapter 3.

Chapter 3

SURVEY OF TEACHERS' ATTITUDES TOWARD INDIVIDUALIZED INSTRUCTION

The survey of teachers included only those who were conducting programs of individualized instruction in the elementary schools of Butte, Kremlin, Havre, Rocky Boy Indian Reservation, and Bozeman, Montana. Sixteen of 28 questionnaires mailed out were returned. The survey instrument mailed to these teachers contained 18 questions concerning their programs of individualization and their attitudes, ideas, and interests in the programs. This questionnaire was made a part of the Appendices, Appendix B.

Table 1 shows some of the results found in the survey of teachers in the areas of grade level taught, classload, desired ratio of student to teacher, classroom assistance, progress reports to parents, area of individualization, and the establishment of goals.

TABLE 1. SURVEY OF TEACHERS WORKING UNDER A PROGRAM OF INDIVIDUALIZED INSTRUCTION.

Grade Level	Class Load	Desired Ratio Student to Teacher	Classroom Assistance	Progress Reports to Parents	Area of Individualization	Establishing of Goals A	B	C	D
TMR *	10	6 to 1	one full-time aide	conferences	group work for social skills; indiv. self-help				X
First	24	12 to 1	occasional help from college & mothers	three conferences	reading, math, physical education			X	
	25	12 to 1	occasional help from college & mothers	three conferences	reading & mathematics		X		
	27	15 to 1	paraprofessional	conferences & standard report cards	reading, math, science, language arts	X	X	X	
First & Second	18	18 to 1	one part-time aide	conferences & report cards	entire program	X	X		
	19	15 to 1	one part-time aide	conferences & regular progress reports	all areas except music			X	
Second	23	10 tl 1	two part-time teacher aides	conferences & standard report cards	entire program	X			

(continued)

TABLE 1. SURVEY OF TEACHERS WORKING UNDER A PROGRAM OF INDIVIDUALIZED INSTRUCTION (continued)..

Grade Level	Class Load	Desired Ratio Student to Teacher	Classroom Assistance	Progress Reports to Parents	Area of Individualization	Establishing of Goals A	B	C	D
Second	22	15 to 1	part-time aide & college students	two conferences & progress reports	reading, math, social studies, science			X	
Third	32	10 to 1	student teachers	conferences & standard report cards	entire program	X	X		
	28	15 to 1	one teacher aide	parent conferences	reading, math, social studies	X		X	
Third & Fourth	15	12 to 1	one teacher aide	progress reports	mathematics	X			
Fourth	22	10 to 1	part-time college & mothers	skill area charts ea. nine weeks	math, reading, language arts	X			
	22-- math 28-- reading	15 to 1	part-time aid from college students & mothers	report cards	reading, math, spelling, social studies				X

(continued)

TABLE 1. SURVEY OF TEACHERS WORKING UNDER A PROGRAM OF INDIVIDUALIZED INSTRUCTION (continued)..

Grade Level	Class Load	Desired Ratio Student to Teacher	Classroom Assistance	Progress Reports to Parents	Area of Individualization	Establishing of Goals A	B	C	D
Fourth	22	less than 20	part-time aide from college students	parent conferences & progress reports	math, social studies, science	X		X	
Fifth & Sixth	15	15 to 1	part-time aides	parent orientation & nine-wk progress reports	mathematics	X		X	

*= Trainable Mentally Retarded

A= Individually

B= In Groups

C= Children Set with Teacher Guidance

D= Teacher Set

CLASSES COVERED BY THE SURVEY

The classrooms included one class for the intermediate trainable mentally retarded, three first grade classrooms, two first and second year combination classes, two second year, two third year, one third and fourth grade combination class, three fourth year classes, and one fifth and sixth grade combination class.

AREAS OF INDIVIDUALIZATION

The survey showed that the areas in which individualization was being carried out ranged from one subject area only, mathematics, to individualization of the entire program in the classroom.

The class for the intermediate trainable mentally retarded was individualized in groups for the learning of social skills and individually for self-help skills.

The areas of reading and mathematics were individualized in one first grade classroom. Seven classrooms--two first grade, one second grade, one third grade, and three fourth grade--had individualized not only their reading and mathematics programs, but also other areas such as social studies, science, language arts, and physical education as well. One first and second grade combination class had become individualized in all areas except music, and that room had a special music teacher. The entire curriculum was individualized in three classrooms--

a combination first and second grade room, one second grade room, and one third year classroom.

CLASSLOADS AND AVERAGES

Classloads varied from ten children in the intermediate class for trainable mentally retarded youngsters to 32 children in one of the third grade classrooms. The average classloads in the classrooms were as follows: first grade, 25.3; first and second grade combination rooms, 18.5; second grade, 22.5; third grade, 20; third and fourth grade combination, 15; fourth grade, 22 (one teacher had 28 children in her reading section); and fifth and sixth grade combination, 15.

Most teachers surveyed felt that, in order for children to receive as much individual attention as was necessary, the student-teacher ratio of ten to one was the most desirable, with perhaps 15 to one the most feasible. One exception was the teacher of the trainable mentally retarded who suggested that the best student-teacher ratio was six to one. These ratios would, of course, vary with the grade level and the abilities of the youngsters.

SETTING OF GOALS

Nearly half of the teachers indicated the children set their own goals in their subject areas. The more capable youngsters set goals and worked independently toward their attainment. Those less capable may

have set goals in groups of four or five children or with the assistance and guidance of the teacher. Some teachers indicated that a few of the children had difficulty in setting goals and in making wise choices without the assistance of the teacher. Other children merely chose the subject in which they wanted to work and worked as long as they wanted to in that area. Prescription sheets were used in the IPI mathematics programs.

GROWTH OF CHILDREN IN INDEPENDENCE

It was apparent from the survey that teachers felt there was considerable growth in independence of the children and in their ability to accept responsibility. However, at the end of a year of working under a program of individualization, some slower youngsters still looked to the teacher for guidance and had to be prodded occasionally.

MOST VALUABLE EQUIPMENT

According to the survey the most valuable piece of equipment to a program of individualized instruction was the tape recorder with a supply of both commercial and teacher-made tapes. Other pieces of equipment mentioned as necessary were a filmstrip projector with filmstrips, an overhead projector and screen, EDL Controlled Reader, the Language Master, a record player with carrels, and headsets for the listening centers.

MOST CRITICAL MATERIALS

Materials listed as most critical to the program included a varied selection of basal texts and supplemental books with guides and keys for checking in reading, SRA reading and mathematics kits, manipulative devices and games for mathematics, visual perceptual and sequence materials for reading, library resources, and plenty of storage space for materials in order that they were readily available to the children. If materials were systematically stored, childred could find them and put them away again where they belong.

USE OF BASAL OR SUPPLEMENTAL READING TEXTS

A combination of basal reading series and individual reading books was being used by most of the teachers, with the SRA reading program supplementing the basal readers in some instances. Individual reading books were being used in three of the individualized programs.

PROBLEMS ENCOUNTERED IN INDIVIDUALIZATION

One of the biggest problems encountered in individualization was finding a suitable method for keeping records of each child's achievement and progress. Teacher-made check lists were frequently being used. In classrooms where a contract system was used, children kept individual records, or a chart was posted with a symbol and color-coded system of

indicating when assignments had been completed and where help was needed. Some teachers kept individual folders with a master notebook for frequent notations on observations of each student. The standard grade book with some modifications was being used by a few teachers. Student profile sheets and prescription sheets were used in those classrooms in connection with the IPI mathematics program.

Another problem encountered was the teacher's inability to accept the noise level, which necessarily went along with the children working independently in different areas and working in groups.

Still another problem was the lack of sufficient teacher's guides, "idea" books, and duplicated worksheets in the areas of reading, mathematics, and science.

EVALUATION OF CHILDREN'S ACHIEVEMENT AND PROGRESS

Pre-tests and post-tests, either standardized or teacher-made, were used for diagnosing and measuring student achievement. Observations of and conferences with the child were noted as valuable techniques for student evaluation. In some instances the more able child was capable of self-evaluation. This method not only added to the growth of the child's independence but was also a great time-saver for the teacher.

Most children were capable of self-correction of worksheets and workbooks and in turn could help in the correcting of the slower student, who never quite gets around to correcting his own work. Students in 10 of the 16 classrooms did all of their own correcting. Children corrected

work with the SRA answer sheets in that program. Four teachers stated they felt it was more valuable to them in diagnosing and evaluation if they corrected all children's work themselves. One teacher, rather than letting the students use her guide book for correcting, made answer cards similar to those used in the SRA program, which facilitated self-correction by the children.

Six teachers, including the teacher of the intermediate class for trainable mentally retarded youngsters, permitted no self-correction of work, while one teacher permitted limited self-correction by an exchange of papers.

EVIDENCE OF POSITIVE EFFECTS OF PROGRAMS

Several evidences of the positive effects of these programs of individualized instruction were:

(1) Some children became capable of setting their own goals and in working toward accomplishment of these goals.

(2) Good students were able to forge ahead; they were also able to help the slower students.

(3) Children developed self-confidence and the ability to discuss problems and express opinions.

(4) Youngsters learned to be considerate of others, to help others, and to share materials with one another.

(5) Children were happier and eager to learn.

(6) Fears and frustrations were greatly reduced.

(7) The only competition was that created by the children themselves, not by the group.

(8) The attainment of higher levels seemed to strengthen the desire to achieve.

(9) Cheating had almost completely disappeared as children became responsible for their own actions.

SPECIAL PROBLEMS NOTED IN THE PROGRAM

Certain social problems were noted by some of the teachers. Some felt the competition as it appeared in the classroom was not as healthy as indicated by other teachers. Some students felt under pressure to compete with others. When children were kept together for more than one year, close friendships were formed at the exclusion of other members of the class. Two teachers felt some of the abler students became quite egotistical, while three other teachers accredited this feeling to a sense of pride in the children's own accomplishments.

PROGRESS REPORT TO PARENTS

Student progress was reported to parents by the use of the traditional report card, parent conferences, a combination of the two, or by parent conferences alone. When the latter method was used alone, there were three or four conferences held throughout the school year.

REACTION OF PARENTS TO PROGRAM OF INDIVIDUALIZATION

Most parents of children enrolled in a program of individualization reacted enthusiastically to the program. Parents of "lazy children" felt these children should have been more rigidly structured.

Parent visitations to these classrooms, on the whole, were increased over the number of visits made to the traditional type of classroom, indicating an interest in the program.

RESULTS OF SURVEY OF STUDENTS

A survey of 120 children in fourth year classrooms in which some individualization was being carried on at Emerson School in Bozeman indicated that 48 per cent of the students felt that school work was more interesting and fun when each worked by himself, 30 per cent indicated they would rather work in small groups, and 22 per cent would rather work with the whole class together. When asked when they accomplished the most work in class, 81 per cent indicated they got more work done when working by themselves, 10 per cent would rather work in small groups, and 9 per cent preferred working together with the entire group.

This survey of children indicated that most children prefer to work on their own and at their own pace.

Some of the reasons given as to why they preferred working alone are as follows:

"I can work as fast as I want to."

"I don't cheat as much, get more of the right help, can think my own thoughts, and don't have to compete with the faster readers."

"Small groups are more fun as we get to talk a lot and learn from each other."

"I'm not bothered so I can think better and get more done."

"I like working in groups, but I think better by myself."

"I get confused or bored with the whole class."

TABLE 2. SURVEY OF FIVE FOURTH YEAR CLASSES ON HOW I LEARN BEST IN SCHOOL.

When is school work the most fun and interesting?	When I work by myself	When I work in small groups	When the whole class works together	Total student responses
Class I	11	6	8	25
Class II	12	7	3	22
Class III	7	9	9	25
Class IV	18	4	3	25
Class V	9	10	4	23
TOTALS	57	36	27	120
PER CENT	48	30	22	
When do you get the most school work done in class?				
Class I	22	2	1	25
Class II	18	2	2	22
Class III	20	3	2	25
Class IV	19	2	4	25
Class V	18	3	2	23
TOTALS	97	12	11	120
PER CENT	81	10	9	

The next step in the study was setting up certain guidelines which would assist teachers in initiating a program of individualized instruction. These guidelines are reported in Chapter 4.

Chapter 4

GUIDELINES FOR A PROGRAM OF INDIVIDUALIZED INSTRUCTION

Some teachers have asked the question: Are the terms "differentiate" and "individualize" synonymous? Differentiating instruction is a realistic step toward the ideal of individualized instruction. To truly individualize one would have to provide each youngster with a unique set of learning experiences and a unique set of teachers, who are experts in recognizing and developing the many facets of the learner's potential. (16:26)

WHOLE CLASS, SMALL GROUP, AND INDIVIDUALIZED INSTRUCTION

If a teacher acts on a commitment to individualized instruction, grouping children within a class is essential. Differentiated instruction demands that all three grouping patterns--whole class, small groups, and individualized instruction--must be used at some time and for some children. (16:33)

Unique characteristics of a child can be learned by observing the way he reacts in a whole group situation. Establishing routines and carrying on activities requiring that strict standards be observed by all can be most efficiently obtained by whole-class instruction. Such art projects as dioramas and murals would be best presented as whole group projects.

A common practice in the use of small group instruction is in presenting reading skills. The area of mathematics is also a good place to

begin forming subgroups. Stahl and Anzalone (16:37) stated that one generalization which can serve as a guide in establishing independent groups is to begin with a group of children who are most apt to succeed. When independence is developed in more able students, the teacher will find that she has more time and energy to help all children, especially the slower child.

As children develop independent work habits, the teacher will find herself assuming the role of a classroom consultant. Working with children individually may often be the most effective way to work in developing skill subjects, clarifying concepts, and diagnosing problem areas.

Teachers must remember that no one grouping pattern will work for all learning situations. The nature of the activity should determine the grouping pattern. Group membership should be flexible and changed whenever individual membership will benefit by the change. Children could be grouped on the basis of learning style. Provisions for differences within subgroups should also be made. (16:43-44)

SURVEY OF INDIVIDUAL INTERESTS AMONG CHILDREN

In order to find individual interests among students, the class should be surveyed to find out what special interests each child would like to follow. After considering these interests in the light of accessibility of materials, space, and the need for adult guidance, the program can be planned. (12:56)

Some students will flit from one activity to another, unable to be independently productive. Others may have the maturity to pursue an interest in great depth. To individualize, instructors should work carefully with those who need it and give only occasional guidance to the more independent.

Obviously, children cannot suddenly be turned loose to direct their own education. Teachers of Duluth, who have worked under the program of individualized instruction, feel it is necessary to provide youngsters with a variety of learning activities that:

(1) Will be highly motivating;

(2) Will have enough self-instructional facilities to ease the problem of classroom management;

(3) Can accommodate a wide range of individual differences; and

(4) Will encourage the accomplishment of worthy objectives. (8:75)

PHYSICAL AND PSYCHOLOGICAL CHANGES IN THE CLASSROOM

The move toward individualized instruction is necessarily accompanied by certain changes--changes in the physical and psychological environment of the classroom. The teacher should be aware of these necessary changes.

Since the classroom will become a setting for an experience in cooperative group living, the children should be encouraged to learn in a variety of ways. Because the classroom is changed to create personal

and group efficiency, the traditional standards of quietness will not be found. Rather there will be a higher level of noise. A room of 30 youngsters must not be expected to work any more quietly than a room of 30 adults would work. Some conversation among several children which is not related to school work should be expected and will give them a "welcome and relaxing change, just as an exchange of pleasantries between teachers can temper the pace of the teaching day." (8:32)

The teacher should guide the students in developing their own value systems as she should encourage them to set standards of classroom behavior. (18:26-27)

Working with children can be greatly facilitated by thoughtful arrangement of desks and materials in the classroom. Even though the many activities may be efficiently organized for the needs of the children, by adult standards the room may appear to be disorderly. The traditional classroom with desks arranged neatly in rows indicated a teacher-dominated, undifferentiated learning situation. (16:43) Desks can be arranged to facilitate different kinds of learning activities; round tables can be used for group discussions and special projects; desks can be clustered for certain group activities; single desks can be pushed together to form working areas for groups, or a single desk can be used by a child who wants to work alone.

As learning centers are set up, care must be taken to see that sufficient storage space is available for all the materials necessary to the particular center.

SELECTION OF STAFF

Individualized instruction does not depend on any given arrangement of condition, materials, or persons. The structure that proved successful in one instance may not prove effective in another. It is best that the program start small. "A single classroom," Esbensen believes, "with an imaginative teacher is all one needs to begin." (8:2)

All of the teachers involved in a program of individualized instruction should be volunteers. According to Esbensen, there is "no faster way to kill a program than to staff it with reluctant dragons." (8:3) The unwilling teacher is the deadliest of critics.

The sensitive teacher is the most important element in helping a child with negative self-concepts. Her attitudes, personality, and skill are important factors in the individualized approach. (4:236)

TRAINING OF TEACHERS

Selection of staff should be followed by a in-service training program in order that teachers can be provided with all of the knowledge necessary to conduct the program. This in-service training program might suggest to teachers how they may work effectively with students within a formal school environment. (8:3)

To help spread information about individualized instruction, Nassau County, New York, held a two-day workshop asking Dr. Jack V. Elding,

research professor of Oregon State System of Higher Education, Monmouth, Oregon, to present an overview of individualized instruction and how programs could be initiated. The issues covered during the workshop included:

(1) Consideration of various types of individualized instruction;

(2) Objectives of the instructional program;

(3) Measurement in individualized instruction;

(4) Planning diagnostic procedures;

(5) Interpreting data in individualized instruction;

(6) Instructional procedures, sequenced or student selected;

(7) Allocation of learning areas;

(8) Time schedules;

(9) Evaluation procedures; and

(10) Progress reports. (8;30)

Thirty-seven out of 56 school districts enrolled 162 people, including administrators, superintendents, curriculum persons, teachers, and school board members. (8:30) A workshop developed along these lines would not only be very beneficial to teachers but also very desirable.

CHANGES IN TEACHING STYLES

In initiating a program of individualized instruction, changes in teaching styles will become evident. The teacher must also individualize his teaching behavior. To accomplish this, teaching must be geared to the needs of the individual student rather than to a larger group. An

important factor of individualization will be the "sensitivity of the teacher to varying personality patterns and needs." (12:59)

The lecture approach will be replaced by discussion involving inquiry and discovery. Rather than telling children the answers to questions, the children will be guided to "try and see for yourself." The questions involving "who, what, and when" will be replaced with those involving "how and why." Questions by the teacher, taking on a new importance, will be used for diagnosis and for stimulating the thinking of students. Teaching methods must support and extend the ability of children to think, to reason, and to conceptualize. (14:7)

The teacher's time will be utilized differently than in the traditional classroom. Scheduling will have to be very flexible if children are to become more involved with learning and to pursue their interests in depth.

TEACHER OBJECTIVES

There is no question that initiating a program of individualized instruction will present several problems. The one that seems to cause the biggest hurdle are the objectives of the teacher. Probably the best way to begin would be to write instructional objectives in terms of observable student behavior. Each instructional goal should be accompanied by a clear description of what the learner "must be able to do in order to demonstrate his accomplishment of the objectives." (8:3) Esbensen

(8:3-4) gave the following as an example of an objective stated simply and inappropriately: "The student will have a good understanding of the letters of the alphabet, A through Z." Then he stated the same objective in terms of observable student performance as follows: "The student should be able to prounounce from memory, in sequence, and with 100 per cent accuracy, the names of the letters of the alphabet, A through Z."

If teachers at all levels could be this explicit in writing instructional objectives, they could easily eliminate almost immediately one cause of learning failure among student; that is, the traditional "fuzziness" of classroom assignments. (8:8)

RECORD KEEPING

Another problem which seems to hamper teachers at the beginning of a venture into individualized instruction is the keeping of records of students' progress and achievement. Teachers who are developing the individualized instruction approach have found it to be necessary to devise ways for keeping records of the children's development, especially in reading and mathematics. A card or a notebook page for each child could be easily used to record notes during the student conference. A more formalized checklist is one on which the teacher periodically records observations concerning the child's performance and abilities. Such records serve as a guide for planning and a basis for reporting to parents on the child's progress. (11:29)

A good system of records for reading was stressed by Thomas and Crescimbeni in which they stated that the records should:

(1) Simply and clearly show what was read under teacher direction;

(2) Show how much time was spent on the reading activity;

(3) Indicate what was done to correct reading difficulties;

(4) Indicate why a book was not completed;

(5) Help the teacher in diagnosing student's reading problems;

(6) Facilitate making of formal reports to parents;

(7) Contain a cumulative record of student's reading growth patterns; and

(8) Permit some involvement of children. (18:260)

Teachers in Congdon Park Elementary School in Duluth used Acme Visible Record Books for recording the student's progress. Each record book contained grid cards, which were marked with a diagonal line when an assignment was made, and a second diagonal line was drawn to form a cross in the box when the assignment was completed. Sometimes scores were also recorded in the box. (8:18) This same teacher-made type of record was also kept by the researcher in large enough form to be posted on the bulletin board. The children kept this record, using a red dot in the square to indicate they were having trouble with that specific skill or concept.

Some teachers get "hung up" on keeping track of things. Compulsive record keeping can be fatal. If keeping records takes more time than is spent by readers reading, then the teacher has been lost in nonessentials.

Realistically, teachers with neat rooms will keep good records, while teachers with messy rooms will not. Similarly, high-powered readers usually keep good records, while low-powered readers probably will not be able to find the papers on which their records are kept. The object of the program is productive students, not neat notepapers filled with records. (11:30)

According to Hunter (12:63) teachers should not load themselves down with bookeeping chores. Records should be simple and easily maintained, containing information on what the student has ccomplished, if he is floundering, or if the task is too easy. Devices can vary from check-lists to anecdotal cards, observations, and teacher-made tests.

MATERIALS

School administrators and teachers showing an interest in individualized instruction should make more effective use of whatever materials they already have at hand. (17:30) As indicated in Chapter 2 and again in Chapter 3 perhaps the piece of equipment most valuable to the program is the tape recorder. This could be used for reading and mathematics; teacher-made tapes could be used to strengthen certain skills; and children could use the carrels for simple listening pleasure.

IPI is an instructional system based upon a set of behavioral objectives that are correlated with diagnostic instruments, curriculum materi-

als, and teaching techniques. The IPI program for mathematics should have five main objectives:

(1) To enable each pupil to work at his own rate through units of study in a learning sequence;

(2) To develop in each pupil a demonstratable degree of mastry;

(3) To develop self-initiation and self-direction in learning;

(4) To foster the development of problem solving through processes; and

(5) To encourage self-evaluation and motivation for learning. (9:133)

Other programmed learning materials, such as SRA and the Sullivan Reading Program, could also be effective teachers. However, one of the most flagrant abuses of this type of material is expecting every child to profit from every program. Teachers could use programmed materials to help maximize the development of individual potential by closely matching the readiness of the learner to the prerequisites of each program. (16:38)

A multisensory approach to learning should be used when choosing materials. Many varied materials can be utilized to stimulate visual, auditory, and tactile responses. Manipulative devices and games could be used as primary learning materials instead of as enrichment activities. (16:27)

Tanzman listed the following materials which are available to those interested in initiating a program of individualized instruction:

> (1) Forty-six Case Studies on Individualized Instruction, a series of pamphlets available from individualized Instruction Case Studies, Institute for Communication Research, Stanford, California 94305 ($10 for the entire series); and
>
> (2) Individualized Instruction: A Manual for Administrators, available from DCE Publications, Waldo Hall, Corvallis, Oregon 97331 ($7.50 each). (17:30)

The EDL Controlled Reader and the Language Master are other pieces of equipment valuable to a program of individualization. The former can be used individually or with small groups, not only to increase reading speed, but also to keep the poorer readers from repeating or going back in reading. Children like to use it on their own, especially if they are slow readers and are embarrassed to read in front of their peers. The Language Master can be an aide to teachers in individualizing a spelling program.

Other pieces of equipment which should be readily available are a filmstrip projector with filmstrips, an overhead projector, and a record player.

EVALUATION

When the main objective of a program is that of making independent, self-sufficient, and self-sustaining students, evaluation becomes a complex matter. The evaluator must know many aspects of each child's

performance. It is not sufficient to know if the vocabulary is known in reading, nor is it sufficient to check oral reading fluency. Teachers must see beyond the student's being able to correctly answer questions following the completion of an assignment. (11:31)

The teacher must know if the young student can perform effectively in the complex world of printed material; she must know if he has the staying power to follow through a long, intricate assignment. Evaluation becomes a self-evaluation for many students. Observant teachers actually know each student's performance better than in the more conventional, structured program. (11:32)

Drugger mentioned the pupil evaluation of one of his first year teachers as follows:

(1) I feel I need more help from my teacher in _____.

(2) I feel good about my progress in _____.

(3) I am discouraged with _____.

(4) I wish my mother would help me at home with _____. (7:359)

These self-evaluations were kept in a folder with samples of the student's writing, compositions, mathematics, spelling, art, science, and test papers, all filed in chronological order. The teacher added anecdotal records when observation of the student's behavior seemed to require further investigation.

This new and inexperienced teacher felt it took about one-third of the school year to get everyone involved on his own. After that time

each student seemed to be involved in his own program, including a mentally retarded child and the girl who read at the seventh grade level. According to Drugger this inexperienced teacher displayed the courage to use methods which "demonstrated with amazing lucidity and consistently the element of a theory of individualized instruction." (7:360)

Teachers should always be on the alert for new and better ways of evaluating. Students who will take part in their own evaluation will come to view grading as only one phase of evaluation.

The final step in this study is the summary, conclusions, and recommendations, which are reported in Chapter 5.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

The purpose of the study was an attempt to establish some guidelines for teachers, who are interested in doing a better job of teaching, through a program of individualized instruction in the primary grades.

A questionnaire was devised and sent to those teachers working under a program of individualization for their attitudes, ideas, and experience. The results of this survey and the review of literature and related research were used to set up guidelines for such a program.

The literature reviewed generally indicated positive results from varied programs of individualization. There were some problems in the areas of record keeping and in the evaluation of children's progress and achievement.

The results obtained from the questionnaire indicated that children were happier when they could take an active part on the process of learning. Student-teacher ratios should be kept low and classloads small. Many varied techniques and materials were necessary to attain the ultimate goal of the program--that is, that each child was to be presented with many opportunities for achieving success in order to experience pride in himself and satisfaction in his accomplishments. As he became more self-confident, he grew in independence and self-direction.

CONCLUSIONS

Based upon the review of literature and related research and statements made by teachers working in an individualized program, the following conclusions were made:

(1) Regardless of the subject area or the grade level taught, teachers must allow for individual abilities and potentials of children.

(2) Every child should have a chance to see progress and know success while working at his own level and at his own pace.

(3) Even with limited budgets classrooms could be reorganized and methods adapted to facilitate more effective ways of teaching children.

(4) Independence and self-direction are not always attained by every student. However, as long as a student must follow teacher directions, that student could not become an independent learner. (11:32)

(5) A major teaching goal would be to get each child actively involved in learning experiences for the development of concepts and skills which would be most appropriate for him.

(6) The dividends of such a program will be the growth in independence, expanded fields of interest, and most important of all, a growing attitude that learning could be zestful and rewarding. (12:56)

(7) Most schools have not been organized to encourage students to function independently when, individual by individual, they were ready to do so. As to whether readiness itself can actually be taught, this proposition has not been explored in any significant way. (8:75)

RECOMMENDATIONS

The following are recommendations for those interested in initiating an individualized program.

Individualized instruction can help students move toward the ideal of self-directed learning. This requires practice, learning through experience and moving slowly and gradually in stages from teacher-directed to self-directed activities. Preferably, this should begin when a child first enters school and should continue throughout all the years of his formal education.

The program might best be started in a small way, introducing children to an individualized program in one or two areas and gradually enlarging the program to other areas.

Student-teacher ratios should be kept low and classloads should be kept small. If the ratio of student to teacher is more than 15 to one, a teacher's aide or some other type of classroom assistance is desirable.

The teacher must have some knowledge of curriculum in order that sufficient and appropriate materials will be available to the students.

There are three types of instructional procedures in an individualized program--whole group instruction, small group instruction, and independent study instruction. Teachers might well use all of these in their programs.

All teachers in a program of individualized instruction should be volunteers and should believe in the validity of the program. There

should be some type of in-service training available to those teachers before programs are instituted.

The teacher should have written objectives in the form of observable student behavior; students should be encouraged to set their own goals and learn to work toward the attainment of these goals.

Some simple yet workable method of keeping records of the child's achievement and progress should be devised.

Evaluation of the student's achievement should be made through observation, conferences with the student, diagnostic tests, and standardized and teacher-made achievement tests.

Teachers should be encouraged to attempt a program of individualization using these guidelines by modifying them to fit the needs of her children.

There is a challenge to educators--the challenge of children and their teachers working together, thinking together, planning together, and doing those selected experiences that form an elementary curriculum. It is also a challenge of "preserving the identity of the individual in a mass society that leans toward conformity." (18:7)

It is the challenge of the teacher who should choose whether to remain with the problem of continuing to use sterile, structured, and traditional methods of teaching or to become a part of the solution by adopting new teaching techniques and accepting new and varied instructional materials to develop creative thinking in children.

> We owe it to every child--to give him the sort of education that will fit him to make the best possible use of his personal and individual abilities. (2:10-11)

For the conscientious teacher a program of individualization is the challenge which will extend the ability of children to think, to reason, and to conceptualize. For the more dubious teacher, it is the joy, the reward, and the exhilerating experience of seeing the child through his own activity and discovery develop curiosity, the ability to question thoughtfully, and to think for himself.

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21. Statement by Kenneth Swenson, personal interview, May 14, 1971.

APPENDICES

APPENDIX A

Route 1, Box 82
Bozeman, MT 59715
May 6, 1971

Mr. .....
.....
.....

Dear Sir:

I am in the process of making a study of programs of individualized instruction in some of the schools in Montana, as partial fulfillment for my Masters of Education degree.

This study is being conducted in an effort to set up some guidelines for a program of individualization in the primary grades in the hope it may help other teachers who may be interested in instituting such a program.

Through the State Department of Education I learned that you have a program of this type in your school. Enclosed herewith is a questionnaire, which I hope you and your staff will find time to complete and return to me at your earliest convenience. The questionnaire need not be signed. All responses will be regarded as confidential. However, should you wish to have a copy of the study, I would be happy to send you one upon its completion, if you will include your return address on the questionnaire.

Your experience in teaching in a program of individualized instruction will add a great deal to my study. Any additional comments you care to make concerning your program will be appreciated.

A stamped, self-addressed envelope is enclosed for your convenience in returning the questionnaire. Thank you for your kind cooperation in furnishing data for this study.

Sincerely,

Encl.

(Mrs.) Ruth L. Anderson

APPENDIX B

QUESTIONNAIRE
(sample)

Please answer the following questions in the space below each question. Use the reverse side of the sheet, if additional space is required.

1. What grade level or levels of children did you work with under your program of individualized instruction?

2. What was your class load?

3. Was your entire program individualized or just one or more subject areas? Please specify.

4. Did the children set their own goals? If so, how was this accomplished?

5. To what degree do you feel the children were able to accept the responsibility for the independent planning and completion of these tasks?

6. What do you feel is the best student-teacher ratio for children to receive as much individual attention as needed?

7. List the items of equipment you felt were the most valuable to you in your program.

8. Please list the most critical materials available and usable for your program.

9. Did you use individual books for reading or a basic reading series?

10. Please explain your method of keeping records for each child's achievement and progress.

11. Did you have classroom assistance, either professional or nonprofessional? Please specify.

12. How did you evaluate children's progress and performance?

13. Did the children have a method of self-evaluation? If so, please explain.

14. Was self-correcting of workbooks, worksheets, etc., a part of your program? If so, how was this accomplished?

15. List evidences of positive effects of your program of individualized instruction.

16. Please list any social problems which you feel might have grown out of your program of individualization.

17. How were student progress reports made to parents?

18. How did parents of children generally react to your program of individualization?