

THE IMPLEMENTATION OF A MODULAR SCHEDULE
AS A MEANS TO INDIVIDUALIZING INSTRUCTION
IN A SMALL SECONDARY SCHOOL

by 4589

SISTER PEGGY HOUSE

B. A., Alverno College, 1963

A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1970

Approved by:


Major Professor

LD
2668
R4
1970
H68
C.2

TABLE OF CONTENTS

Chapter	Page
1. INTRODUCTION	1
2. THE GOALS OF EDUCATION	3
3. MODULAR SCHEDULING AS A MEANS TO INDIVIDUALIZING INSTRUCTION.	7
4. THE IMPLEMENTATION OF A MODULAR PROGRAM AT POPE JOHN HIGH SCHOOL	16
DESCRIPTION OF SCHOOL AND COMMUNITY.	16
PHILOSOPHY AND OBJECTIVES.	20
FIRST YEAR: ASSUMING A NEW STYLE OF EDUCATION.	21
SECOND YEAR: EVALUATING AND PLANNING	25
THIRD YEAR: INNOVATING AND EXPERIMENTING	31
5. EVALUATION AND RECOMMENDATIONS	39
FACTORS CONTRIBUTING TO SUCCESS AT POPE JOHN	39
FACTORS PRESENTING THE GREATEST DIFFICULTIES AT POPE JOHN	41
RECOMMENDATIONS.	43
6. CONCLUSIONS.	47
APPENDIX A	49
APPENDIX B	55
BIBLIOGRAPHY	60

Chapter 1

INTRODUCTION

Current trends in both the philosophy and the practices of education have, in recent years, been postulated upon an insistence that education and educators must have as their primary objective to increase the personal growth of each individual student and to do this by providing educational opportunities and experiences relevant to that individual's needs.

Such extreme insistence on the importance of individualizing education to better insure personal development has imposed as a corollary the necessity of examining instructional procedures in schools in order to assess their effectiveness in producing desired outcomes. Educators who have accepted this responsibility for self-evaluation have been for the most part dissatisfied with their findings that traditional school practices have tended to be lock step, group-centered, teacher-centered in nature, and they have insisted instead on a radical reorganization of education which would place the learner at the center of educational activity.

One proposal which has received considerable attention since it was offered in 1961 by Dr. J. Lloyd Trump is the system of modular or flexible scheduling, particularly as it applies to the secondary school. But to consider the possible eventual outcomes of changing to a modular schedule and to a student-centered active education is one thing; to plan, to initiate, to improve, to continually develop such a system is quite

another. Any school attempting such a change can expect difficulty; some have experienced failure; others, perhaps out of fear, have made no attempt at all. Many schools, however, have experienced success.

One such successful experience is the history of Pope John XXIII Central Catholic High School in Elgin, Nebraska. From its first planning stages, this newly consolidated high school was faced with several considerations: both student body and faculty would be small in number; the rural community served by the school would impose serious limitations on outside resources; and local prejudices against consolidation efforts would place the school under strong pressure to justify its existence by producing educational outcomes not available through other local schools.

Realizing these demands, and encouraged by two members of the new staff with previous experience in modular scheduling, the faculty of the new high school expressed the consensus that the most effective service to the student and the most efficient utilization of faculty capabilities would be realized through a program of modular scheduling. On this premise planning for the school began.

The subsequent development of Pope John was an evolutionary one, one which may serve both as model and as encouragement to other schools and other educators. It is the purpose of this paper to report those developments, to evaluate them in the light of current educational theory, and to recommend for consideration further possibilities for even greater growth.

Chapter 2

THE GOALS OF EDUCATION

If there is any one tenet which underlies and determines current educational theory it is the insistence on the primacy of the learner in the educational enterprise. From this first principle all else builds.

Learning is by nature activity, activity inherent in the learner and dependent upon his desire and choice to learn. Teaching functions in this context of activity only insofar as it provides the atmosphere in which learning can take place. For the teacher this involves manipulating the learning environment in order to facilitate meaningful learner activity; for the student it implies self-activation, responsibility, and decision making.

Such activity is personal and individual. Learners as well as teachers are unique individuals with differences of understandings, skills, experiences, ideas, attitudes, and feelings. Learners are motivated by opportunities to apply their learning, by understanding and accepting the purpose of the learning situation, by successful learning experiences, by teacher acceptance, by associations between new and past learnings, and by seeing the usefulness of learning in a personal context. The self-concepts of learners and teachers strongly affect their behaviors; physical and social environment likewise influence the learning process.

This personalized nature of the educational activity has engendered considerable professional demand for the escalation of full scale programs to individualize instruction. While proposals vary as to how such individualization actually is to be accomplished, certain fundamental principles generally underlie each plan.

First, in this context of student-centered learning, education is not held synonymous with schooling both because a great deal of learning occurs outside of the school setting and because a great deal of what takes place in school does nothing to promote learning. Likewise, the notion of instruction encompasses many activities from training, or the conditioning of behavior, to indoctrination, or the conditioning of beliefs; but instruction further implies communication especially that which involves reasons, evidence, and arguments. Teaching and learning, then, involve a continuum spanning from behavior and conduct to knowledge and belief, but in every case this involves activity and is therefore something which must be engaged in, must be goal-directed, must involve attention and effort.

Thus the insistence on individualization, for if motives and behaviors are personalized, so, too, are objectives and ends. The notion of individualized instruction, however, means many things to many people. Mitzel (74; 435) suggests five such commonly accepted views: (1) that the learner may proceed at a self-determined pace appropriate to him; (2) that the learner may work at times convenient to him; (3) that the learner begins instruction in a given subject at a point compatible with his past achievement; (4) that the learner receive diagnosis and remediation in specific skills and knowledges which he

lacks; or (5) that the learner may choose from a variety of instructional materials those which are most effective for him.

Each of these views applies validly, but each is incomplete. A much fuller understanding of individualized instruction assumes not only the tailoring of means but much more fundamentally the tailoring of objectives to the unique needs and abilities of each person. In such a system of customized education Mitzel's five definitions collectively apply but each student is accountable for and evaluated solely in terms of the degree to which he achieves those objectives set for him. Taken to its logical conclusion, what results from this total individualization is the non-graded school.

Several projections for such developments are found in the writings of Bushnell (25), Gagné (45), Popham (86), Rhodes (87), Shane (93), Wilhelms (123), and others. Basically all call for a total systems approach to education involving an adequate model of the learning process; learner-centered activity; behavioral objectives with appropriate evaluative criteria at various taxonomic levels; resource roles for teachers; individually suitable adaptations of curricula in terms of scope, sequence, depth, pace, and means of attainment; and extensive, on-going evaluation of outcomes.

Other researchers such as Butterfield (27), Christian (30), Deeves (33), Doyle (37), and McKinney (72) have recently called attention not only to the nature of educational innovations and revisions but also to the philosophies underlying these and to the attitudes of educators toward them. Their findings, too, point to the current trend toward increased individualization.

Such programs of total individualization or non-gradedness

are not, however, implemented in final form; they are developed through an iterative process of experimentation, evaluation, and revision. What is sought is an educational style in which instructional outcomes assume top priority. And such a system of necessity demands qualitative changes in philosophy and purpose, in curriculum, in administrative procedures, in teacher and student activities, in instructional processes, in physical facilities, and in educational materials and media.

To recognize weaknesses, to identify needs, to acknowledge demands, however, are not sufficient. No success can be anticipated except that which results from a non-ending process of improvement. To strive for full scale individualization in education is to assume the responsibility for drastic renovation in the school system.

One innovation which has received considerable attention in the past decade is the modular or flexible scheduling of the school day. This venture, although never sufficient as an educational end, has, in fact, proven an important first step toward eventual total individualization. It is important, then, to examine more closely its potential to advance the educational effort.

Chapter 3

MODULAR SCHEDULING AS A MEANS TO INDIVIDUALIZING INSTRUCTION

Nearly ten years ago, in 1961, J. Lloyd Trump and Dorsey Baynham, in their book Focus on Change: Guide to Better Schools (116), confronted the educational establishment with the guidelines for what has come to be known as the Trump Plan or modular scheduling, a proposal calling for radical reorganization and renewal in education. In keeping with its expressed purpose of stimulating research and development in improved organization, learning, and staff use in schools (116:24), the Trump Plan has, in the decade since its proposal, undergone numerous modifications and assumed many new dimensions through its adaptation to varied school situations. Its essential character, however, remains clearly recognizable and gives rise to the following major innovations:

Schedule Modification

Unlike traditional schedules built on identical time blocks, usually fifty to sixty minutes each, where classes meet regularly at the same time each day, the modular schedule is built on a shorter time unit or module usually of fifteen or twenty minutes. These modules can be grouped in numerous ways allowing for greater variation in class length with the number of modules allocated for any given activity being determined by the nature of the activity itself. Students are

scheduled for a much smaller percentage of the school day with the amount of unscheduled time ordinarily increasing during each successive year of education or at each successive grade.

Schedule Flexibility

The traditional schedule is lock stepped and rigid with each day like every other. In a modular schedule there is at least the minimum flexibility which results when classes are scheduled for varying lengths of time on different days. A common scheduling unit is the week with each day of the week having a different order and distribution of class times. In some situations this minimum flexibility is all that is attempted, but a fully flexible schedule implies frequent, even daily changes in order adequately to meet student needs.

Group Size

In contrast to traditional class groupings which tend to average thirty to thirty-five students and which do not change within a given course, modular scheduling employs groupings of different sizes each appropriate for different instructional purposes. These activity-determined groupings are of four types:

Large groups. Large groups are often assumed to be assemblies involving perhaps one hundred or more students or the total enrollment in a particular course. Frequently this is the case. The large group, however, is more properly defined by the nature of the learning activity than by the number of persons involved. Large groups normally are

teacher-dominated and occur whenever the student assumes the role of receptor. This method is most efficient when all students are to be exposed to the same educational experiences such as lectures, audio-visual presentations, or examinations. Three objectives warrant the use of large group instruction: (1) to motivate and arouse student interest, (2) to provide information not otherwise available to the student, and (3) to supply directions and suggest options for subsequent student activities.

Small groups. Small groups vary in size but groups of twelve to fifteen students are frequently considered to be the maximum desired. Provision for frequent change in small group membership enhances their effectiveness. The important aspect of small group activity is individual involvement in discussion or other student-centered activities. The teacher in a small group functions as a group member, but does not dominate.

Tutorial groups. Tutorial groups involve the teacher with one student or a very small number of students engaged in a particular educational activity. Frequently this involves direct instruction by the teacher.

Independent study groups. These groups may frequently be groups with membership of one, or they may be small student groups. The participants in independent study carry on their educational activities apart from direct interaction with the teacher. Although independent study plays an important part in the modularly scheduled school, it is not identical with individualized instruction as described earlier.

Recognition of Individual Differences

The modular schedule provides for individual student variables by the inclusion of unscheduled time which can be used by different persons for different purposes; by the increased availability of a variety of learning options from which the individual can select; by increased student-teacher interaction; and by numerous other opportunities which result from the creative planning by both teacher and learner. The importance assigned to independent study also arises in large measure from the desire to further satisfy individual needs and interests.

New Roles for Teachers, Students, and Administrators

In the modularly scheduled school, the responsibility for learning is shifted to the student who is expected to grow in skills, in knowledge, and in intellectual competence. In all three aspects of growth the student is expected to attain that level of accomplishment which is his maximum. This personal achievement proper to the individual also becomes the criterion for measuring student performance.

Teachers, on the other hand, are expected to relinquish their prior roles as suppliers of information and to become instead resource persons whose first responsibility is to do whatever possible to facilitate and encourage learner growth. Great importance is assigned to the teacher's competence to make professional decisions.

✧ A corollary to this new emphasis on teachers as resource persons is differentiated staff assignments. Teachers function on teams designed to capitalize on differences in teacher abilities. They also

are assisted by clerks, teacher aides, and other paraprofessionals equipped to relieve teachers of various routine and non-professional duties.

Administrators, especially principals, are expected to assume serious responsibility for improving instruction, for maintaining professional competence, for continual evaluation and progress. In all its many facets, the improvement of instruction at every level becomes the administrator's primary and most important duty.

Curriculum Reorganization

Curriculum, too, must be constantly evaluated and updated to assure its relevance to the learner. Neither subjects nor time can be compartmentalized. Learning activities must reach outside of the classroom, must bring the real world to the student, must take the student to that real world. And achievement of educational outcomes must replace the clock and the calendar as determiners of curricular content.

Physical Facilities

In the modularly scheduled school, the resource center or instructional materials center is the true arena of learning. The principal resource center is the library; other centers include laboratories and audio-visual centers. All school facilities, including classrooms, assembly rooms, study halls, lounges, corridors, and special purpose rooms, are used for whatever function the learning activity requires.

Instructional Materials

Instructional materials include anything which can further learning. Only one of these is the textbook. Others include printed resources, audio-visual materials, laboratory and shop equipment, business machines, communication media, models, games, and people, to cite only a partial list. It is important that these be readily available to the student for his immediate use.

Evaluation

Two aspects of evaluation receive strong emphasis in the modular scheduling system. First is the importance of evaluating learner progress and the effectiveness of instruction in terms of the degree to which the individual learner has achieved his objectives. Such evaluation must not be taken as the exclusive responsibility of the teacher, but must also be within the capability of the learner himself that he may assess his own accomplishments as he advances. The second aspect of evaluation involves the school as a whole as well as each of its many phases of activity. It implies on-going self-evaluation of the educational enterprise for the purpose of further improvement, and it is the collective responsibility of all members of the educational establishment: administrators, faculty, students, parents, school board, and community at large.

These ~~also~~ important aspects of educational change take on different particular characteristics and different degrees of relative importance in each adaptation of modular scheduling to a unique school

situation. The current literature offers reports of such representative attempts to implement the Trump Plan. In his recent research in this regard, Lawrence (64) not only identified and described the major problems encountered in the transition from traditional to flexible programs in selected secondary schools, but also presented a summary of the background and development of modular scheduling as well as a review of the literature in this area. His contributions in these last two regards are deserving of note.

One common element of studies into the implementation of any modular plan appears to be the recognition of a fairly constant set of principal difficulties frequently encountered. Lawrence, in the study cited above, identified some of these; other reporters have done likewise. Trump himself (111) offered one of the more complete lists of probable difficulties encountered in establishing a modular program when he specified the following ten challenges:

1. To learn the changed roles of teachers in relation to independent study, small group discussion, and large group instruction;
2. To depart from a conventional school schedule;
3. To work with others;
4. To evaluate important instructional outcomes;
5. To relate with teachers not involved in flexible scheduling;
6. To create and sustain understanding by parents and students;
7. To maintain flexibility;
8. To find time to plan and prepare materials;
9. To establish adequate long range plans;
10. To live and act in a goldfish bowl atmosphere.

To acknowledge the probability that these difficulties will be encountered in some form when a school moves to adopt a flexible schedule is simply to be realistic. The particular establishment of a modular program described in the next chapter of this report was likewise faced with variations of the problems implied in all ten of these categories. Encountering limitations, however, did not render the end unattainable.

The many advantages ensuing from the move to a modular program will probably become clear only at some future vantage point of evaluation. Beggs (13) suggested after his study of flexible scheduling in secondary schools that perhaps the most significant outcome is the stimulation of changes in instructional methods which can result when flexible scheduling is implemented in an environment of strong administrative leadership and cooperative faculty involvement.

Other particular indications such as the successes encountered in the program described in the following text support the expectation that creative, imaginative applications of the Trump Plan can, in fact, enhance learning outcomes to a notable extent.

The important condition, ~~however~~, is to allow to the modular schedule only its rightful status as a means by which to effect desired outcomes. In responding to Trump's demand for a focus on change, it is the result, not the process, which must be emphasized. Introspection which stops with the means, the process, fails to take account of instructional growth. By contrast, focus on the end, the outcome, demands the identification of desired objectives, the designing of procedures to promote their attainment, and the evaluation of success and the planning of subsequent procedures in the light of these objectives.

When educational growth for each individual becomes the principal concern of all school personnel, then the freedom and flexibility made possible through modular scheduling becomes effective in advancing the goal of personal progress for every learner. That such outcomes are attainable and that such programs are viable even when developed entirely at the local level is the testimony of Pope John High School.

Chapter 4

THE IMPLEMENTATION OF A MODULAR PROGRAM AT POPE JOHN HIGH SCHOOL

Pope John XXIII Central Catholic High School in Elgin, Nebraska, opened in September, 1967, a four year comprehensive high school enrolling approximately 225 students. The school was born of a consolidation involving the closing of two small parochial high schools and the joint efforts of six rural parish communities to form the corporation which became Pope John.

As plans developed for the opening of the new high school, administrators and faculty agreed that it was imperative that the school should offer to the community educational opportunities which could not be duplicated in other local schools. To achieve this they chose to form their plans in terms of a modular system.

DESCRIPTION OF SCHOOL AND COMMUNITY

Pope John High School is administered by a superintendent and a principal who function together with a school board composed of the pastor and two elected laymen from each of the six parishes.

The physical plant, newly erected just prior to the school's opening, is modest but comfortable and is pleasantly carpeted and climate controlled throughout. The cost of construction as well as the operational expenses are borne entirely by the members of the six parishes. Each student pays an annual book bill of approximately \$30 but

only those students who are not members of one of the six Pope John parishes are directly responsible to the school for tuition. Others assume their share of financial responsibility in whatever manner their respective parishes establish. During the school year just completed, 1969-70, operational expenses for the school averaged \$275 per pupil.

The school plant, built to contribute to modular scheduling, includes two large lecture rooms; four smaller all-purpose classrooms; library; humanities resource center; audio-visual room; biology-chemistry and physics-physical science laboratories with adjacent office, darkroom, and storeroom; music room and three private practice rooms; complete home economics facility; industrial arts rooms; laboratory-resource center rooms for mathematics, art, and business education; administrative and guidance offices and work areas; faculty and student lounges. Gymnasium and cafeteria facilities are in separate buildings leased from the Elgin parish.

The town of Elgin is centrally located to the area served by the high school, an area with a radius of approximately thirty miles. Students commute by school bus or private vehicle. Most students enter Pope John from one of five small elementary schools or from any of several one room schools.

The area of Nebraska in which the school is located is completely rural, and farming and ranching form the occupations of 67¹ per-

¹ Statistics reported in this description were compiled in 1969 from information in the permanent records of the current students and formed part of a self-evaluation report prepared for the Nebraska State Department of Education. Other descriptions of programs and developments in the school represent the author's interpretation and synthesis of experiences as a faculty member during the school's three years of operation.

cent of the students' families and contribute considerable stability to school enrollment. The ethnic background of the community is primarily German, and this is likewise the heritage of 85 percent of the students. English is the principal language in 100 percent of the homes. The religious affiliation in the area as a whole varies widely. Within the school, most students are members of one of the six consolidating parishes, but several are not.

Many of the students represent the first generation in high school; 39 percent of the parents have eighth grade educations or less; 8 percent have some high school, but incomplete; 42 percent of the parents have completed high school; only 3 percent hold bachelor or advanced degrees. Yet graduates of the school exhibit a marked trend toward pursuing further education, 35 to 40 percent of these in four year colleges and universities and an equal proportion in other post-secondary school programs. Less than 5 percent remain in the locality after graduation.

Staff size has varied only slightly during the school's three year history. At the close of the 1969-70 term the faculty numbered fourteen fulltime and one parttime members including the superintendent, principal, guidance counselor, and librarian. In addition the school is served by one fulltime secretary, one parttime bookkeeper, several parttime paraprofessionals, one custodian, and several students employed by the Neighborhood Youth Corps. Of the fifteen faculty members mentioned above, nine were clerics or religious; all other personnel were lay.

Because of the increased staff size resulting from school

consolidation and because of the more effective utilization of time under the modular schedule, a wide variety of curricular offerings is possible. Even during the school's first year of operation the number and diversity of courses far surpassed the offerings of the pre-consolidation curriculum. The course of studies grew during each of the three years until the curriculum now includes four years of religion; four years of English; five years of social studies plus an additional one year of sociology integrated with the senior religion course; four years of college preparatory and two years of non-college preparatory mathematics plus an additional year of consumer mathematics offered by the business department; seven years of natural sciences; one semester of speech; up to three and one half years of drama; two years of art; one semester of reading; two years of Spanish; five and one half years of business including work-study programs; two and one half years of home economics including one semester for boys; three years of vocational and industrial arts; and two years of physical education. Nine cocurricular and extracurricular activities and five competitive sports enrich these offerings. In addition, guided independent study and correspondence courses can be negotiated on an individual basis through the guidance counselor, the principal, or a faculty member. A complete list of the school's course offerings is found in Appendix B.

To aid counselors, faculty, students, and parents in the wise planning of educational programs and in the evaluation of outcomes, regular testing programs are conducted by the guidance counselor at periodic intervals throughout the student's four years. This testing

sequence includes the Science Research Associates High School Placement Test, the Primary Mental Abilities Test, the Differential Aptitude Test, the Iowa Tests of Educational Development, the American College Testing Program, the Scholastic Aptitude Test, the National Merit Scholarship Qualifying Test, the General Aptitude Test Battery, and such other achievement, aptitude, or interest measures as the guidance counselor may deem proper for individual persons. Test results are interpreted to the faculty as well as to students and parents and individual results are available for examination by any teacher.

The schedule employed in the school is built on seventeen modules of twenty minutes with two minute pass periods between mods. Five minute periods for announcements begin and end each day, and the bells which signal these announcement times are the only ones rung in the school. Preparation of the master schedule is directed by the principal; the school does not enjoy the services of computerized scheduling.

PHILOSOPHY AND OBJECTIVES

The essence of the educational effort at Pope John High School is best summarized by one statement from the school's philosophy: School is to be a place where students learn, not where teachers teach. All else is built on this. The philosophy of Pope John, as expressed by the school faculty, is reprinted in Appendix A. It is based on the following assumptions:

1. School is primarily a place which provides an atmosphere

for individual learning.

2. Various theories of learning are valid and proper according to the need and situation of the learner.

3. Student needs, not organizational conveniences, determine the nature of learning activities.

4. The teacher functions as a resource person guiding and facilitating the learning process.

5. The student bears the responsibility of active participation in the learning task.

6. The administration must serve the teachers in their efforts to promote and individuate the learning atmosphere.

7. Curriculum must be continually evaluated and improved so as to effectively meet realistic student needs.

8. Any activity which can evoke the learning process and which can be evaluated as such is a proper part of the educational atmosphere.

In the light of these beliefs and of the cognitive, affective, and vocational objectives enumerated by the school's statement of philosophy, the system of modular scheduling is recognized as a principal means to attaining the goal of personalized education.

FIRST YEAR: ASSUMING A NEW STYLE OF EDUCATION

The opening of the high school in September, 1967, marked a beginning which brought to the students not only a new school building but also new classmates, new faculty, new administration, new curriculum, and new scheduling.

Education about the new system became the top priority. Several

members of the staff with some experience and knowledge of modular scheduling led the program of intrafaculty learning. An intensive three day faculty workshop which preceded the opening of school included a series of seven films featuring Dwight W. Allen of Stanford University who discussed the many aspects of modular scheduling, large and small groups, independent study, and other topics. Throughout the year the monthly faculty meetings focused on new understandings of the educational system as they evolved from the living experience, and several faculty members were provided with opportunities to attend workshops and seminars of this nature which they subsequently shared with the entire staff.

Education of parents was the second order of activity with evening programs devoted not only to explanations of the system and its rationale but also to the opportunity for parents to experience a simulation of their child's schedule. Orientation days for students followed a similar pattern including the dry run of the schedule prior to the first day of classes.

Classes that first year were characterized by a fairly regular pattern of large and small group meetings, the most common distribution per week being one two-mod large group and three two-mod small groups per class. There were exceptions, particularly in laboratory courses.

In general teachers tended to use the scheduled large group quite regularly, primarily for the purpose of lecture by the teacher. Small group discussions and activities were more varied, although teachers later identified the small group as one phase of the system demanding drastic changes in teacher and student roles and consequently subject to slower evolutionary development.

Independent study began a long growth process that year, but initially it was employed primarily as a released time or unscheduled time activity directly related to course work. To facilitate independent study, an honor pass system was introduced.

Under the terms of the honor pass qualified students were allowed to use any available classroom or laboratory during their unscheduled time. During that first year open labs in science, home economics, industrial arts, and business education operated on a limited schedule; the first resource center appeared during the second semester. All laboratory and resource areas as well as the library and unoccupied classrooms were freely assessable to holders of an honor pass. All other students spent their unscheduled time in a supervised study hall unless otherwise excused by a teacher.

Honor passes were made available first to seniors and juniors, later to sophomores, and finally to freshmen. Students submitted a written application for this which also required the signatures of one parent, one study hall proctor, at least two of the student's current teachers, and the principal. The demerit system enforced in the school provided the criterion for retaining the pass; the accumulation of three demerits during any one semester automatically revoked the honor pass privileges. At minimum the student would be required to wait one semester before becoming eligible to apply again.

With one exception, these features tended to characterize most activities and courses in the school. The exception in question was an experiment in extending independent study in mathematics. The program, implemented at the beginning of the second semester for the purpose of

increasing individualization, provided the following modifications and applied to all mathematics students except freshmen in the non-college algebra tract:

1. Large group meetings were held twice each week and were required for all students. Schedules of topics for large group presentations were distributed to the students at the start of each quarter of the school year as were references to corresponding text materials and problems.

2. All small groups became laboratory sessions. Attendance at some or all of these was or was not required according to the policy announced periodically by the teacher.

3. Ordinarily assignments were left to the responsibility of the student to select, with appropriate guidance, the number, type, and difficulty of problems best fitted to his needs. Answer keys for textbook problems were available upon request to allow the student immediate evaluation of outcomes and progress. Although students corrected their own problems, all written work was done in a mathematics notebook which was presented for periodic teacher evaluation.

4. Students working together and discussing with each other were highly encouraged to continue such sharing with their peers.

5. While students enjoyed considerable freedom of choice of learning activities in the math lab, each was required to present himself for a brief quiz at specified times, usually weekly. These quizzes were major factors in evaluating day-to-day progress.

6. In addition to the teacher-staffed mathematics center, a second station was established outside of that room and was voluntarily operated by advanced mathematics students qualified to help be-

ginning students on a tutorial basis.

7. Students whose performances were judged unsatisfactory were required to increase their attendance in the mathematics center in proportion to personal needs.

While not fully developed during its first semester of operation, this experiment did receive extensive approval and recommendation from students in the courses and subsequently became a model for more extended individual programming.

The first year under the modular system ended as it began: with a faculty workshop. This culminating session focused intently on the purposes of large and small group instruction, independent study, and modular scheduling as a whole; assessed the degree to which these were successfully implemented during the year just completed; identified areas of most needed improvement; and pointed the staff to the dominant concern of the second year, self-study and evaluation.

SECOND YEAR: EVALUATING AND PLANNING

The faculty workshop which opened second year activities was keyed to three themes specified for priority consideration: the improvement of small group experiences, the enlargement of the independent study program, and the initiation and execution of a school-wide self-study. All three received on-going attention during the year.

The first of these efforts, the improvement of small group processes, was seen to evolve throughout the year as teachers exercised increasing degrees of flexibility and grew in their ability to transfer class control to the students. While most classes continued

to be scheduled on a pattern of large and small groups similar to that established the previous year, small group activities varied much more than before and teachers frequently suspended small groups in lieu of numerous other types of student activity.

Closely associated with this increased emphasis on student participation was the second effort, widening experimentation with independent study. The mathematics program introduced during the first year continued along the basic plan outlined earlier with one or two refinements. Among these were the addition to the mathematics resource center of a substantial number of textbooks, programmed materials, and audio-visual aids covering a wide spectrum of high school mathematics, and the relocation of student aide services into the mathematics resource center.

The English department contributed substantially with the introduction of a nine week unit on mass communication during the senior year. Throughout the duration of the unit weekly large group time was spent primarily in viewing films and in receiving directives and assignments. All regular small groups were suspended and replaced with a wide variety of discussions, panels, research projects, listening and viewing experiences, and other student activities related to the study of newspapers, magazines, radio, television, and films and to the production of some of these by the students.

A third form of independent study was employed in the senior religion course which was programmed entirely on the basis of independent research and joint projects involving a very few students each under the supervision of a faculty member.

A corollary to the independent study expansion was a consid-

erable increase in the availability of the open lab, especially in science and business education. An art lab also was added. In the cases of the science and art laboratories, volunteer student lab assistants significantly increased the amount of open lab time by rendering two important services: performing routine duties such as distributing materials and assisting students assemble equipment thereby freeing the teacher for service to others, and supervising during times when teachers were not otherwise available thus extending the lab schedule so that open labs could be maintained during all modes except those for which the lab was scheduled for class use. The honor pass system established the previous year continued to apply to seniors, juniors, and sophomores as a support to the independent study objective.

The success of these independent study attempts and the diversification of student activity in small groups resulted in large measure from the appearance that second year of learning activity packages or LAP's which were initially written and introduced by the English, chemistry, and Spanish teachers but which soon spread to all departments.

These LAP's varied in scope, in duration, in completion of content, and in quality. Basically, however, the model which gives rise to LAP's features the following components:

1. Behavioral objectives including performance criteria are presented to the student in order that he may know what outcomes are expected of him. Ideally these objectives include several appropriate to each taxonomic level and a differentiation is made between minimal expectations and suggested depth and enrichment outcomes.

2. A pretest enables the student to evaluate his initial knowledge and to determine what learning he must yet acquire.

3. An outline delineates the content, skills, or concepts to be learned, appropriate references to available resources, and specifications of assigned and optional learning experiences. Learning activities, like objectives, are varied in depth and scope; no student performs all of them. But each student, with proper guidance, selects those experiences most suitable to his need.

4. Evaluation is made possible through tests designed to measure the student's level of achievement of each objective. Included in the LAP are quizzes and posttests for the student to use in evaluating his own progress before presenting himself for evaluation by the teacher.

5. "Quest Activities" suggest areas of enrichment, depth, or related study which the student may choose to pursue on his own.

One feature of these LAP's which those writing them and using them stressed as most important was the inclusion of definite objectives clearly stated in behavioral terms. The nature, importance, and method of writing behavioral objectives were discussed in faculty meetings; teachers were supplied with reading material such as Mager's work on preparing instructional objectives (69); and great importance was assigned to specifying such behavioral criteria for each course, even those for which LAP's had not yet been written. By Spring teachers were requested to file preliminary copies of such course objectives along with other evaluations and recommendations issuing from the school's self-study, and were encouraged to supply students in their courses with

corresponding lists of these behavioral goals. The impetus for this drive as well as the materials for teacher education came primarily from the school's principal.

As LAP's and independent study spread to increasing numbers of courses and students, faculty members became aware of and encouraged an emergence of the student not merely as a participant but more importantly as a determiner of school programs. Students, for example, assumed the major responsibility for planning school assemblies and they introduced and conducted a supplementary film series featuring numerous educational and general interest movies shown during the school day for any students with interest and unscheduled time.

Through the free film program as well as through the increased use of films in relation to classroom activities and the expanding incorporation of media into school programs, student requests for individual use of audio-visual equipment grew exponentially. Consequently, all projectors, tape recorders, record players, and similar equipment were collected in one center and were made available to all students at any time. It also became increasingly more common for teachers to transfer listening and viewing activities to the responsibility of the student for completion during unscheduled time.

As students became more involved in active learning, faculty and administrators strengthened their insistence on student participation in evaluating and planning programs, although initially such student involvement remained largely on informal or departmental levels. Corresponding, likewise, to widening student interest and awareness, efforts to extend students and their educational experiences beyond the school were accelerated. Together students and teachers were instru-

mental in bringing to the school resource persons from many fields including atomic energy, space science, crime, alcohol, drugs, state and local government, farm organizations, the Peace Corps, and numerous vocational areas. Field trips and attendance at workshops and seminars increased in frequency and extended to increasing numbers of students as efforts to focus the young people beyond the limited environment of their local community assumed growing importance.

Concurrent with the expanding front of concern for individualization was the third of that year's principal themes: self-evaluation. Recognizing this as an important factor in assessing the school's beginning as well as in charting its future, the staff undertook the study on a year-long basis. Following the evaluative criteria supplied by the Nebraska State Department of Education, appropriate committees were organized. Each faculty member served on one major committee (Philosophy and Objectives or School and Community); at least two departmental committees (those concerned with his own department or departments and one evaluating a department of which he was not a member); and at least one other committee (Program of Studies, Student Activity Program, Instructional Materials Services, Guidance Services, Health Services, School Plant, or School Staff and Administration). In addition to faculty members, committees involved students or other personnel such as the school nurse or library aides to the extent desired by the appointed committee members.

The immediate outcome of this self-study was the Spring visitation by a State Department of Education team and the accreditation of Pope John High School, but the long range outcome proved to be considerably more significant in that the self-study experience opened both

faculty and students to the potential of enhancing individualization in all areas by experimenting with still more flexible programs of student involvement. Eagerness to test this potential provided the thrust to move into the third year phase: innovation and experimentation.

THIRD YEAR: INNOVATING AND EXPERIMENTING

Students returned to school in September, 1969, to find an immediately obvious change: the former study hall had been rearranged as a humanities resource center including among its holdings the current periodicals and all audio-visual materials and equipment formerly housed in the library. The room change was part of a larger policy shift initiated by students the previous semester, endorsed by faculty at both spring and fall workshops, and refined through several trial and error stages until by the end of the first semester it included the following provisions:

1. A system of seven resource centers located in appropriate rooms, served humanities, mathematics, science, art, home economics, business education, and industrial arts.

2. Students with unscheduled time could use any of these resource areas or the library without special permission. Honor passes were abolished as unnecessary.

3. Group activity such as discussions or students studying in two's or three's was permitted and encouraged in resource centers.

4. Faculty members were available in their respective department centers as often as their schedules permitted. In the case of science, business, home economics, art, and industrial arts centers

which were laboratories as well, supervision was provided during all open mods.

5. Instructional materials in these centers were freely accessible to students at all times.

6. A separate room was reserved for silent individual study for students who desired this. No supervisor was assigned although periodic checking of student activity in that room might be carried out. A second silent study area was provided in a wide front corridor.

7. During second semester a student lounge was also available during ten of the seventeen daily mods. Student Council assumed full responsibility for the administration of the student lounge.

The desirability of these resource centers followed as a logical conclusion to an accelerated utilization of LAP's since their introduction the year before. By the opening of the third year virtually every department was employing teacher-constructed LAP's to further individualize instructional opportunities, and resource centers were indispensable means to these goals and activities.

A notable change in attitude toward the place of large and small group functions accompanied the stronger emphasis on independent study. Large group activities especially reflected this shift. Although still scheduled on a regular weekly basis, large groups actually met only when they were purposeful and not merely because the time was reserved. Within small groups flexibility also increased to allow considerable informal subgrouping or regrouping where, for example, students might be required to attend a small group but could be free to select and schedule their own groups and to change group membership.

A major step in designing and initiating educational innovations was made during that fall when the instructional staff voted to cancel all classes for one week of intensive planning, a move fully supported by county, state, and archdiocesan education officials. Considerable student participation in the endeavor was assumed to be an inseparable part of the program. Thus students were invited to participate on a voluntary basis in general faculty meetings, in departmental activities of their choice, and in communicating the results to parents and others.

School officials estimated that two thirds of the student body was actively involved in some phase of the week's activity. Together teachers and students discussed lectures and course materials; planned units in mathematics, poetry, science, furniture arrangement, morality, insurance, African culture, and more; wrote LAP's and constructed tests; typed, duplicated, and stapled; talked together and met each other. Many of the week's outcomes were significant for their long range effects; many began trends which the school plans to develop and extend in the future. One such result is particularly significant as an initial move toward a non-graded school program. This was the establishment of two courses on a continuous progress basis.

The two programs involved were the Introductory Physical Science (IPS) and the intermediate algebra and trigonometry (Math III) courses. Slight differences existed between the two plans, but their basic patterns were similar. In short, each course was developed using LAP's through which students could proceed individually. Scheduled class periods were ordinarily devoted to this independent study; open lab times supplemented

scheduled periods. Students were not required to operate on any pre-determined time schedule, and each received a set of course requirements which explained minimum standards for earning one, two, three, or four quarter's credits. Grades and credit were assigned not at the end of nine weeks but whenever the student had met the specified criteria. If a student would complete such a program in less than one year he could choose between (1) selecting supplementary units, (2) beginning the next sequential course, or (3) terminating the study for the year. Should the student complete less than the full course during the year he would be allowed to continue the study over the summer or during the following year or, in the case of the elective Math III course, to accept partial credit on the basis of work completed.

Both programs received enthusiastic recommendations from the students involved. Of forty-four freshmen enrolled in the IPS course, forty-three completed the program despite having spent one full month on a supplementary study of the space program. None of the twenty-six students in Math III completed their program, but eighteen of these elected to continue their study during the summer and provision was made for opening the mathematics laboratory three times each week for that purpose. Final evaluation of the progress of those students is still forthcoming at the time of this writing, but informal unsolicited comments from those involved reflect continued enthusiasm for the program. The most frequently cited reason for this enthusiasm has been that the student perceives himself as understanding mathematics better than at any time during his past experience. Incomplete teacher evaluations support this judgement. To date neither students nor parents

have objected to the program nor to the fact that the students spent longer than one year to complete the course.

The two experimental programs in Math III and IPS represented a serious move in the direction of the non-graded school. Another variation of this idea was employed in other courses, among them chemistry and physics.

Chemistry students during the 1969-70 school term were pilot testing materials for the Nebraska Physical Science Project (NPSP), a curriculum program developing LAP's for use in a two year unified chemistry and physics program. Physics students followed the Harvard Project Physics course. In both programs units were blocked into specified time periods during which the student was expected to complete at least minimum requirements. Within the time block, however, students were free to individualize learning activities, depth, enrichment, scope, and sequence to as great a degree as each one desired.

But as individualization increased within the school, so, too, did dissatisfaction with the existing grading system. By the opening of the third year the staff had turned serious attention to altering that code, and a revised grading plan went into effect with the first quarter report that year.

After much discussion of the purpose and meaning of report cards and grades, three guiding principles emerged:

1. Each student should be evaluated on his own progress in relation to his personal ability.
2. Each student should be evaluated on the degree to which he has achieved the course objectives.
3. Each student and parent should clearly understand why the

student received a particular evaluation.

To meet these criteria demanded new definitions of the meaning of grades and a delineation of grading criteria.

To satisfy the first grading requirement, evaluation of student progress as measured by student ability, a section of the new report card was marked according to the following code:

- 1 Progress is outstanding when compared with student's ability
- 2 Progress is good but not equal to student's ability
- 3 Progress is slightly evident but not very near to student's ability
- 4 Progress is not evident since last marking period

Before the first reporting was completed, however, teachers recognized the need for an evaluation between "1" and "2" for the student whose performance was equal but not superior to his ability. Most persons improvised such a midpoint grade, and future printing of report forms will include that correction. In evaluating this section of the report guidance department files of aptitude test results were, of course, quite helpful.

The second grading requirement, evaluating the student's progress in achieving course objectives, required completely new definitions of traditional grades. Faculty thinking indicated that students who attained only minimum expectations or who performed only at the lower levels of skills should be evaluated by the grade "C". The grades "B" and "A" would clearly indicate consistent performance at the higher cognitive and affective levels. The grade definitions finally accepted were the following:

- A Excellent achievement in subject: In addition to doing the required work, the student has exhibited a depth of understanding and an ability to apply to new situations the subject matter studied to an exceptional degree.

- B Very good achievement in subject: In addition to doing the required work, the student has exhibited a depth of understanding and an ability to apply to new situations the subject matter studied to some degree.
- C Satisfactory achievement in subject: In addition to doing the required work, the student has exhibited a basic understanding of the subject matter studied.
- D Sub-standard achievement in subject: Minimum requirements for this subject have been met, but understanding of the content is limited.
- I Incomplete: Minimum requirements for this subject have not been met. No credit will be given until the required work is completed according to the instructions of the teacher.

In defining grades in this manner the staff hoped to de-emphasize percentages or numerical scores which they felt generally held little meaning. The grade "I" was chosen to accommodate those students who required longer periods to complete courses but who would be able to perform satisfactorily if freed from pressures of time. Incomplete grades would, of course, be converted to failures if no satisfactory completion of requirements followed.

The third evaluation requirement, to inform the student as to the reason for his grade, presented greater difficulty since what was an important criterion in one course might not be equally important in another. An example is participation in group discussions which was weighed more heavily by English teachers than by mathematics teachers. To resolve this, each department drew up its own set of criteria pertaining to its grading practices and these were printed on that department's report card form. Reasons for a student's grade could then be communicated by indicating those criteria which had not been met.

Finally, in addition to the general progress reflected in the

various third year programs, several manifestations of increased student involvement and student-centered activity were seen to emerge. Previous student responsibilities such as planning assemblies, sponsoring the film series, and supervising laboratories were continued, but added to these were such others as responsibility for the student lounge, operation of the bookstore, and a wide variety of services to the school. Not only did students participate in faculty meetings and serve on planning and evaluation committees, but representatives also were given voice on the superintendent's advisory board.

Students reached outside of the school to increase community awareness of national happenings especially those concerned with war and the environment. They wrote regular articles about the school for publication in local newspapers, and they initiated action and organized student groups to conduct open meetings in several surrounding communities to further public understanding of school activities. Students visited schools in other parts of the state to gain new ideas for improving their own school, and they organized intraconference Student Council meetings to stimulate growth in other neighboring schools. They also brought to their all-white community twelve Negro students from the Omaha inner city to spend a weekend in their homes as black students met white students, city youth met rural youth, and people met people.

By the close of the school's third year of operation there was little doubt that the student was the center of the educational enterprise at Pope John High School.

Chapter 5

EVALUATION AND RECOMMENDATIONS

Measures of the successes and difficulties encountered in the Pope John High School program have to date been informal evaluations due in large measure to the lack of personnel with the ability, the resources, and the time to conduct extensive research although the school staff recognizes the value and desirability of such assessment. Faculty members, administrators, and students have, however, suggested two sets of conditions which they felt contributed most significantly to the successes and problems met during the three years of growth. In reviewing these factors it is significant to note that those involved in the school's development did not debate the question of optimum school size and were not deterred by popular predictions that such flexibility and diversification would be beyond the reach of a small school. They accepted the input conditions of limited size and limited resources, including financial restrictions, and attempted instead to produce maximum output from that which was available.

FACTORS CONTRIBUTING TO SUCCESS AT POPE JOHN

In seeking reasons for the growth and development of any of the Pope John programs there appeared to be in essence only one cause: human creativity. This manifested itself primarily in three groups of

persons: administrators, faculty, and students.

Without the leadership and encouragement of the school administrators, particularly the principal, it is unlikely that any of the outcomes would have materialized. Instead, the administration consistently granted to the faculty the professional freedom to make instructional and organizational decisions free of unnecessary red tape, supported and encouraged innovation and experimentation, allowed for opportunities to extend education beyond the limits of the school itself, and provided sources of information and education to further the professional growth of the staff.

Faculty members in turn responded with imaginative ideas and the growing willingness to risk experimentation and innovation. They re-examined their personal instructional techniques and redefined their position in the educational spectrum. In their dealings with each other they formally and informally stimulated mutual professional growth, and they assumed major responsibility for encouraging students to think independently and to communicate their ideas to others. Most of all, they cultivated respect for the students as individuals.

The students in their turn recognized the trust and responsibility placed in them and cooperatively and eagerly attempted to verify that trust through their deepening maturity.

Together the students and faculty evolved into a relationship of mutual respect and friendship as each accepted his share of the educational responsibility. In the realization of this corporate unity, the students indicated as a principal cause of growth the programs implemented through the religion department to expose the students to

guidance, to personality studies, to group dynamics, and to human relations.

Recognition should also be made of the members of the school board who responded with considerable support to proposals from the school staff.

FACTORS PRESENTING THE GREATEST DIFFICULTIES AT POPE JOHN

In attempting to conduct any comprehensive secondary school program, the difficulty of providing for the needs of all students is undoubtedly the greatest challenge. This was found to be no less true under the Pope John modular program. Several aspects of this problem were involved, although most of these were not peculiar to schools with modular schedules. For example, the need to develop curricula and resources appropriate to many different individuals is common to all schools. Modular scheduling, in fact, facilitated this individual accommodation because of its potential for individual and independent study programs. On the other hand, those cases where student needs were not adequately met were perhaps more obvious when student accountability was based not on class attendance but on personal attainment of objectives. Only the student can determine whether or not learning will occur. Motivating him to choose to learn remained a priority concern.

A second difficulty encountered at Pope John was insufficient time for teachers to meet with students or for teachers to plan and develop curricula and resources. This problem grew in importance in proportion to increasing individualization of instruction.

The fact that public understanding of educational change lagged behind the introduction and execution of programs presented a third difficulty. The gap in public acceptance appeared to be widened by the limited educational backgrounds of the population. Many attempts by school personnel to involve parents and other adults in school programs were well attended but for the most part they failed to move the parents beyond the level of spectators or receptors.

Limited community resources posed a fourth problem. The vast majority of students would leave the rural community; yet the scope of their daily activities failed to provide experiential knowledge of the reality beyond their restricted environment. The school appeared to be faced with the task of bridging the gap between that larger world and their home-school world.

A fifth difficulty facing the designers of the school's programs was the variety and, in many instances, the limitation of elementary school preparation which characterized a number of Pope John students. Students from small, inadequate elementary schools frequently brought with them needs and deficiencies which must be overcome, and such necessities limited some of the curricular growth which secondary school personnel might otherwise have desired.

Finally, the limitations of finances provided ever-present bounds to many desired improvements. All financial responsibility was borne by the patrons of the school with the only outside assistance being limited participation in programs supporting school lunch, public health, and library.

Other lesser difficulties which were encountered frequently

were transitory in nature. Those listed above, however, encompassed most of the major concerns which faced the persons involved with the school.

RECOMMENDATIONS

In reviewing the development of educational programs at Pope John High School, and in considering the trends which they reflect, the objectives toward which they are directed, and the difficulties which they are likely to encounter, the following recommendations are proposed as guidelines for further improvement:

1. Curriculum development should be evaluated in the light of the following questions: Does the curriculum provide offerings adequate to meet the needs of all students at all levels of interest and ability? Are the objectives of each course suited to the personal needs of the particular student? Is adequate provision made for offering a diversity of learning activities from which each individual may select those appropriate to himself? Does the curriculum allow flexibility of scope and sequence appropriate to varying personal objectives and needs? Is the curriculum relevant to the real-life needs of the students? Is it contemporary with the socio-economic milieu in which the student must live?

In this last regard particular attention should be given to one major innovation planned for the 1970-71 school term. According to a proposal adopted at the May, 1970, faculty workshop, a special "floating day" will be introduced into the schedule once every two weeks on an experimental basis. It is hoped that the content of these days will be

as varied as the personalities of the students or faculty who elect to plan them. Preliminary proposals are for all-school seminars devoted to fine arts, politics, war, minority problems, Negro culture, science and technology, and others. Careful attention should be directed to the planning and evaluation of these activities.

2. Evaluation of instructional outcomes should be accelerated along two principal directions: First, individuals and groups planning and using LAP's or any other curricular materials need to give careful attention to developing or adopting evaluation instruments which effectively measure individual attainment of individual objectives. Second, longitudinal studies of the over-all effectiveness of the total program as well as of its components should systematically be undertaken.

3. Resources of all kinds should be expanded. This includes not only printed, programmed, or audio-visual resources, but resources of personnel as well. Staff expansion should take cognizance of the advantages of differentiated staffing and should expand clerical and paraprofessional services to teachers. Outside resources should be investigated and new ways found to bring such opportunities to the school or to take the students outside of the school or town. Nearby colleges should be encouraged to include the high school in their teacher education programs. And study should begin into the availability of computer services to facilitate both instruction and administration.

4. Provision must be made to decrease faculty assignments in order to increase both teacher-student contact time and teacher time for planning instruction. The expansion of clerical and paraprofessional services mentioned earlier would contribute considerably. Investigation should also be made of the possibility of hiring teachers during all or

part of the summer for the purpose of innovative planning and improvement of instruction.

5. To realize these necessary developments, new sources of financial support must be found.

6. Education of the adult community should be a vital concern of the school. Not only must the public be kept aware of school developments, but they must be brought into active partnership in planning and executing programs. The school should likewise recognize a need to provide academic education for the adult community and should seek to expand the more limited adult education programs already begun. Finally, the school should seek ways of helping to overcome local prejudices which tend to divide rural communities.

7. If many of the secondary school improvements are to be realized then the high school must also address itself to helping the elementary schools and the elementary school teachers to meet the needs facing them in their situations.

8. Professional growth and continuing education are imperative for all staff members. Workshops, seminars, in-service and summer courses, professional reading, and any other means of personal improvement should be brought within the reach of every teacher and administrator.

9. Self-study efforts must not be unitary or periodic happenings but must be on-going, effective programs actively involving not only faculty and administration but also students, parents, patrons, school board, and any other group affected by the school.

10. In general, the Pope John educational community should push forward in the direction of increasing individualization of education for each student while preparing for evolution to total non-gradedness.

Chapter 6

CONCLUSIONS

Sound educational theory supports a growing dissatisfaction with traditional school practices and an increasing demand for total individualization of instructional objectives, activities, and evaluations to meet the personal needs, interests, and abilities of each student. This radical departure from past modes of education necessitates a totally new kind of educational system.

The modular or flexible schedule can be a first significant step toward achieving such individualization. Its implementation is reasonable and possible in many different school settings including very small schools with only limited resources.

The successful transition to such a system depends most heavily on careful study by those involved as to the objectives, methods, and limitations of the system. Strong administrative leadership, imaginative and cooperative faculty involvement, and respect and trust toward student participants are the greatest contributors to success.

Modular scheduling is itself a tool only, and as such it is only as potent as its user. Properly implemented, however, it demands a radically new style of education which gives promise of producing qualitatively different outcomes of meaningful human growth for each individual.

APPENDIX A

Appendix A

PHILOSOPHY AND OBJECTIVES OF POPE JOHN XXIII CENTRAL CATHOLIC HIGH SCHOOL¹

PHILOSOPHY OF SCHOOL

The Philosophy of Pope John XXIII Central Catholic High School in Elgin, Nebraska, is based in the respect and responsibility for:

- development of the whole person
- learning and the various theories of learning
- world and community of which the students and faculty members are contributing and responsible components throughout their lifetime

The authority and service of this school comes from the parents who have the right and responsibility to educate children and seek the services of the school to carry out this task. The school is the extension of the home stressing the values of the home but at the same time expanding the education of the child to assimilate the values of human society -- the American Way of Life -- and the values injected into human society by the Message of Christianity. This assimilation of human and Christian values is accomplished by the various secular sciences and by the systematic study of the Message of Christianity.

Primarily the school is to be considered a place that provides

¹This statement of the philosophy and objectives of Pope John High School was prepared by a faculty committee and was accepted by the entire faculty and administration in 1969.

an atmosphere of individual learning. In adopting theories of learning, this school considers that various theories of learning are to be utilized according to the need and situation of the student. The Problem Inquiry Method, the Lecture Method, the Small Group Method, the Tutorial Method for the advanced and the special student, and the Directed Independent Study Method are the theories of learning to be utilized according to the situation. The method of instruction is to provide a situation of learning which is flexible enough to meet the needs of the students rather than the organizational needs.

Using such a philosophy of learning, the role of the teacher is somewhat different from the traditional role. The teacher in this learning situation is to be a resource person guiding, programming, and setting up the learning process rather than being merely an information-giver. Learning, whenever possible, should be an active process, not passive, on the part of the student. School is to be a place where students learn, not where teachers teach.

In this relationship of teacher and student, the administration is to be a service to the teachers in their efforts to provide and individuate this learning atmosphere for the students. In enumerating the responsibility of the administration and teachers, it would be as follows:

1. To provide for flexibility to meet the continually changing needs of the students.
2. To provide for a continuous evaluation of the student achievement.
3. To recognize the changing patterns of psychological growth.

4. To seek new and better methods of evaluation and measurement of achievement.

5. To recognize new patterns resulting from advances in culture, science, and the world.

6. To be willing to change whenever change is meaningful.

In regard to the course offerings and content of learning, the school emphasizes the necessity to continually evaluate the relevancy of the content in terms of the type of students enrolled and the type of work these students will encounter when they become part of the world of work. Because of the rapid change and also the future demands that will be made on these students, there must be a continual evaluation of the relevancy of the course offerings.

Since the philosophy of the school holds a theory of learning that is varied according to the situation and the need of the students, certain activities are considered to be part of the learning atmosphere of the school. The Student Council, the athletic system, the Journalism Club, the National Honor Society, and other activities are an integral part of the learning process of the students interested in these activities. Any activity that can evoke the learning process, or a desired behavioral change, and can be evaluated as such, is to be considered part of the atmosphere of learning.

In concluding the philosophy of the school, our goal is to evoke desired behavioral changes in students through the learning process provided by the teachers and students.

OBJECTIVES OF THE SCHOOL

The learning atmosphere of the high school based in the philosophy of the school contains these specific objectives. The objectives of the educational program are divided into the Cognitive, Affective, and Career Objectives.

Cognitive Objectives

A flexible program is to be used for the development of cognitive skills in the various subjects' content areas, with special emphasis on all forms of communication. The conventional curriculum, based on covering so many pages or units within a given time allotment, will not suffice. Concepts that are relevant to the social, political, and economic survival of men are to be stressed.

The curriculum should stress:

1. Active learning for greater student participation
2. Curriculum diversity to meet the special concerns and needs of the students
3. Realistic concepts appropriate to the experiential background of the learners
4. Learnings that are conceptually oriented
5. Sequential skills programming to assure small incremental progression with proper reinforcement
6. Diagnosis as a means of individualizing instruction
7. Christian values for better living

Affective Objectives

Curriculum planning must also provide for the emotional and psychological needs of the students as well as for their cognitive needs. There should be a close relationship between the cognitive and the affective objectives. Implicit in the affective phase of curriculum plan-

ning are provisions for content, skills, and strategies that foster:

1. Self-awareness and positive self-concepts
2. Empathy and respect for others
3. A desire to be self-supporting
4. Standards of health and morality
5. A sense of the relationship between individual and society
6. Appropriate modes of emotional expression
7. A socialized disposition
8. A feeling of potency in the civic, social, and political community
9. A sense of special responsibility as a Christian and a desire to be an effective Christian

Career Objectives

The curriculum for the students includes recognition of the career objectives of the students enrolled. If you are to find self-fulfillment in an adult world and become contributing members of society, guidance and career programs are twin imperatives. The school must materially assist the students in developing:

1. A broad awareness of career choices available
2. An understanding of economics as it relates to the world of employment
3. Wholesome work attitudes and dispositions
4. Knowledge necessary to attain employment commensurate with their ability
5. Opportunities for career exploration through job experiences
6. Marketable skills including psycho-motor skills necessary for optimal self-fulfillment.

APPENDIX B

Appendix B

COURSE OF STUDIES AT POPE JOHN HIGH SCHOOL

The course of studies listed below represents the offerings
at Pope John High School as of September, 1970:

Art Courses

Art I	1 year	Elective
Art II	1 year	Elective

Business Courses

Bookkeeping	1 year	Elective
Consumer Problems	1 semester	Elective
Office Practice	1 year	Elective
Personal Finance	1 semester	Elective
Shorthand	1 year	Elective
Typing (Choose one)		Required
Personal	1 semester	
Vocational	1 year	
Work-Study Program	Variable	Elective

English Courses

English I	1 year	Required
English II	1 year	Required
English III	1 year	Required
English IV	1 year	Required

Foreign Language Courses

Spanish I	1 year	Elective
Spanish II	1 year	Elective

Home Economics Courses

Home Economics I	1 year	Elective
Clothing and Housing	1 semester	Elective
Foods and Human Development	1 semester	Elective
Creative Cookery (Boys Only)	1 semester	Elective

Humanities Courses

General Humanities (Formerly General Music)	1 year	Required
---	--------	----------

Industrial and Vocational Courses

Basic Woods	1 semester	Elective
Advanced Woods	1 semester	Elective
Basic Metals	1 semester	Elective
Mechanical Drawing	1 semester	Elective
Vocational Agriculture (Taken at Elgin Public High School)	1 year	Elective

Mathematics Courses

Algebra (Choose One) Pre-college Non-college	1 year	Required
Geometry (Choose One) Pre-college Non-college	1 year	Required
Intermediate Algebra and Trigonometry	1 year	Elective
Introductory Analysis	1 year	Elective

Music Courses

Band	Up to 4 years	Elective
Chorus/Glee Club	Up to 3 years	Elective
Special Groups	Up to 4 years	Elective

Natural Science Courses

Physical Science (One)	1 year	Required
Introductory Physical Science (IPS)		
Topics of Physical Science		
Biology (Choose One)	1 year	Required
Biological Sciences Curriculum Study (BSCS--blue)		
Topics of Biology		
Earth and Space Science	1 year	Elective
Physical Science II	1 year	Elective
Chemistry (Chem Study)	1 year	Elective
Harvard Project Physics	1 year	Elective
Advanced Biology	1 year	Elective

Physical Education Courses

Physical Education I	1 year	Required
Physical Education II	1 year	Elective

Religion Courses

Religion I	1 year	Required*
Religion II	1 year	Requires*
Religion III	1 year	Required*
Religion IV (Including Sociology)	1 year	Required*

(* Religion courses are electives for non-Catholic students.)

Social Science Courses

American Government	1 semester	Required
American History	1 year	Required
Asian Studies	1 year	Elective
Geography	1 semester	Required
International Affairs	1 year	Elective
World History	1 year	Elective
Sociology	1 year	Required
(Included in Religion IV)		

Speech and Drama Courses

Speech	1 semester	Elective
Drama	Up to 7 semesters	Elective

Other Courses

Freshman Orientation	1 year	Required
Developmental Reading	As Needed	Required*
(* Need-determined)		

Co-Curricular Offerings

Debate	Up to 4 years	Elective
National Honor Society	Up to 3 years	Elected by Faculty
Publications Staff	Up to 3 years	Elective
Student Council	Up to 4 years	Elected by Students
Music Activities (See Music Courses)		

Extra-Curricular Activities

Letter Club (Athletics)
Pep Club

Athletic Department Offerings
(Competitive Sports)

Basketball
Football
Track
Volleyball (Girls)
Wrestling

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Abington High School Faculty. "Evaluative Criteria." Abington, Pennsylvania: Abington High School, North Campus. (Mimeographed.)
2. Alethea, Sister Mary. "No Bells in Our School! Experiment in Flexible Scheduling." Catholic School Journal, LXVI (April 1966), 81 - 82.
3. Allen, Dwight W. "Elements in Scheduling a Flexible Curriculum." Journal of Secondary Education, XXXVIII (November 1963), 84-91.
4. _____. "First Steps in Developing a More Flexible Schedule." Bulletin of the National Association of Secondary School Principals, XLVI (May 1962), 34-6.
5. _____ and D. DeLay. "Stanford's Computer System Gives Scheduling Freedom to Twenty-Six Districts." Nation's Schools, LXXVII (March 1966), 124-5.
6. Anderson, G. Ernest, Jr. "How Computers Assign Students." Nation's Schools, LXXV (February 1965), 70.
7. _____. "What Your School Should Know About Computerized Scheduling." Nation's Schools, LXXVII (April 1966), 84.
8. Anderson, Robert H. "Organizational Character of Education: Staff Utilization and Deployment." Review of Educational Research, XXXIV (October 1964), 455-69.
9. _____. Teaching in a World of Change. New York: Harcourt, Brace and World, 1966.
10. Atkinson, Richard C., and H.A. Wilson (eds.). Computer-Assisted Instruction, A Book of Readings. New York: Academic Press, 1969.
11. Beggs, David W., III. Decatur-Lakeview High School: A Practical Application of the Trump Plan. Englewood Cliffs, N.J.: Prentice Hall, 1964.
12. _____. Nongraded Schools in Action: Bold New Venture. Bloomington, Indiana: Indiana University, 1967.
13. _____. "A Study of the Implementation Strategy Employed by Selected Schools Using a Flexible Class Schedule." Dissertation Abstracts, 26:6451, May 1966.

14. _____. Team Teaching: Bold New Venture. Indianapolis: Unified College Press, 1964.
15. _____ and Edward G. Buffie (eds.). Independent Study: Bold New Venture. Bloomington, Indiana: Indiana University, 1965.
16. Beltz, George Washington. "Independent Study in Selected Secondary Schools in Missouri." Dissertation Abstracts, 29:2600A, February, 1969.
17. Bloom, Benjamin Samuel (ed.). Taxonomy of Educational Objectives. 2 vols. New York: K. McKay, 1964.
18. Bolvin, J.O. "Implications of the Individualization of Instruction for Curriculum and Instructional Design." Audiovisual Instruction, XIII (March 1968), 238-42.
19. Brown, B. Frank. Education by Appointment: New Approaches to Independent Study. West Nyack, N.Y.: Parker, 1968.
20. Brunner, Jerome S. The Process of Education. Cambridge, Mass.: Harvard University Press, 1960.
21. _____. Toward a Theory of Instruction. Cambridge, Mass.: Belknap Press of Harvard University, 1966.
22. Bush, Robert N. "Problem of a Flexible Schedule in High School." Educational Leadership, XVIII (January 1961), 205-8.
23. _____ and Dwight W. Allen. "Flexible Scheduling." Bulletin of the National Association of Secondary School Principals, XLVII (May 1963), 73-98.
24. _____. A New Design for High School Education: Assuming a Flexible Schedule. New York: McGraw-Hill, 1964.
25. Bushnell, David S. "An Educational System for the 70's." Phi Delta Kappan, LI (December 1969), 199-203.
26. _____ and Dwight W. Allen (eds.). The Computer in American Education. New York: Wiley, 1967.
27. Butterfield, William Lee. "Secondary Curriculum Model Building Using a Synthesis of the Thought of Harold Albery and Jerome Brunner." Dissertation Abstracts, 28:4945A, June, 1968.
28. Cawelti, Gordon. "Does Innovation Make Any Difference?" Nation's Schools, LXXXII (November 1968), 60-3.
29. "The Changing Role of the Teacher." Educational Technology, X (February 1970), Entire Issue.

30. Christian, Mary Taylor. "A Study of the Dimensions of the Non-graded School Concept." Dissertation Abstracts, 28:1336A, October, 1967.
31. Cyrs, Thomas E., Jr.; and Rita Lowenthal. "A Model for Curriculum Design Using a Systems Approach." Audiovisual Instruction, XV (January 1970), 16-18.
32. Davidson, Shirley M. "Development of a Program of Supervision for Implementing Nongraded Classroom Practices." Dissertation Abstracts, 29:1060A, October, 1968.
33. Deeves, Evelyn Irene. "The Implications of the Dewey-Bruner Philosophies for Curriculum Planning." Dissertation Abstracts, 28:4947A, June, 1968.
34. Delgado-Marciano, Maria T. "The Operation of Curriculum and Instruction in 20 Nongraded Elementary Schools." Dissertation Abstracts, 27:698A, September, 1966.
35. "Differentiated Staffing." Nation's Schools, LXXXV (June 1970), 43-49.
36. Divoky, Diane. "What to Do About the One's Who Don't Care." Nation's Schools, LXXXV (February 1970), 60-2, 109.
37. Doyle, Walter. "A Professional Model for the Authority of the Teacher in the Educational Enterprise." Dissertation Abstracts, 28:1730A, November, 1967.
38. Edling, Jack V. "Individualized Instruction: The Way It Is -- 1970." Audiovisual Instruction, XV (February 1970), 13-16.
39. Elam, Stanley. "The Age of Accountability Dawns in Texarkana." Phi Delta Kappan, LI (June 1970), 509-14.
40. Elkins, Floyd S.; Ewin Gaby; and Michael J. Rabalais. "An Instructor + Behavioral Objectives + Multimedia = Success." Audiovisual Instruction, XV (January 1970), 19-21.
41. Ellsworth, Ralph E., and Hobart D. Wagener. The School Library: Facilities for Independent Study in the Secondary School. New York: Educational Facilities Laboratories, 1963.
42. Empey, D.W. "Student Self-Direction, Flexible Scheduling, and Team Teaching." Bulletin of the National Association of Secondary School Principals, XLVII (February 1963), 118-24.
43. English, Fenwick. "Teacher May I? Take Three Giant Steps! The Differentiated Staff." Phi Delta Kappan, LI (December 1969), 211-14.

44. Fish, Kenneth L. "Adopting a Modular Schedule?" Bulletin of the National Association of Secondary School Principals, LII (September 1968), 62-70.
45. Gagné, Robert M. "Some New Views of Learning and Instruction." Phi Delta Kappan, LI (May 1970), 468-71.
46. Gard, Robert R. "A Realistic Look at the Flexible Schedule." Clearing House, XLIV (March 1970), 425-29.
47. Gilmore, Henry Martin, Jr. "The Relationship Between New Instructional Programs and Certain Flexible Features of School Buildings." Dissertation Abstracts, 26:2560, November, 1965.
48. Glatthorn, A.A., and J.E. Ferderbar. "Independent Study for All Students: Abington High School, North Campus." Phi Delta Kappan, XLVII (March 1966), 379-82.
49. Glines, Don E. Implementing Different and Better Schools. Mankato, Minnesota: Campus Publishers, 1969.
50. Gorman, Alfred H. Teachers and Learners: The Interactive Process of Education. Boston: Allyn and Bacon, 1969.
51. Gott, C.M.; J.W. Simmons; and M.F. Noall. "Daily Schedule -- Shorter Periods, Longer Periods, Variable Periods, or What?" Bulletin of the National Association of Secondary School Principals, XLV (April 1961), 110-15.
52. Greenberg, James D., and Robert E. Rousch. "A Visit to the School Without Walls: Two Impressions." Phi Delta Kappan, LI (May 1970), 480-84.
53. Griffin, W. Maxwell. "Schools of the Future -- Now." Bulletin of the National Association of Secondary School Principals, XLVI (May 1962), 267-72.
54. _____. "Wayland, Mass., High School Program for Individual Differences." Bulletin of the National Association of Secondary School Principals, XLVII (March 1963), 118-27.
55. Harper, P.S.; Dale Parnell; and E.E. Oliver. "Daily Schedule -- Shorter Periods, Longer Periods, Variable Periods, or What?" Bulletin of the National Association of Secondary School Principals, XLV (April 1961), 12-17.
56. Hirsch, Werner Z., and Colleagues. Inventing Education for the Future. San Francisco: Chandler, 1967.
57. Hofmann, Elayne B. "Brookhurst Plan -- An Experiment in Flexible Scheduling." National Education Association Journal, LIV (September 1965), 50-52.

58. Howard, Eugene R. "Flexible Scheduling." North Central Association Quarterly, XL (Fall 1965), 208-13.
59. _____. "Modular Scheduling in the Senior High School, A Means of Improving Instruction." High School Journal, XLVIII (January 1965), 282-88.
60. Howes, Virgil M. (ed.). Individualizing Instruction in Science and Mathematics. New York: Macmillan, 1970.
61. "Individually Prescribed Instruction." Washington, D.C.: Education U.S.A., 1968.
62. Jacobs, Claire Macaulay. "A Comparison of the Attitudes of Team and Non-Team Teachers Toward Various Aspects of Teaching." Dissertation Abstracts, 29:1474A, November, 1968.
63. Kapfer, Philip G. "Behavioral Objectives and the Curriculum Processor." Educational Technology, X (May, 1970), 14-17.
64. Lawrence, William Robert. "Identification and Description of Problems and Procedures Involved in the Transition from Traditional to Flexible Programs in Selected Secondary Schools." Ann Arbor, Michigan: University Microfilms, 1970.
65. Lee, Eugene C. New Developments in Science Teaching. Belmont, California: Wadsworth Publishing Co., 1967.
66. Lindsey, James Francis. "A Study of Provisions for Meeting Individual Differences through Graded School Organization." Dissertation Abstracts, 27:705A, September, 1966.
67. Long, Adelbert Hugh. "A Study of Three Contemporary Educational Critics." Dissertation Abstracts, 28:2139A, December, 1967.
68. Macmillan, C.J.B., and Thomas W. Nelson, (eds.). Concepts of Teaching: Philosophical Essays. Chicago: Rand McNally, 1968.
69. Mager, Robert Frank. Preparing Instructional Objectives. Palo Alto, California: Fearon, 1962.
70. Manlove, Donald C., and David W. Beggs, III. Flexible Scheduling: Bold New Venture. Bloomington, Indiana: Indiana University, 1965.
71. McCaffery, James F., and Daniel S. Turner. "Discipline in the Innovative School." Clearing House, XLIV (April 1970), 491-96.
72. McKinney, Charles Edward. "Action Research in Independent Study (1962-1966)." Dissertation Abstracts, 28:1346A, October, 1967.

73. McLeod, Jack Donald. "Prediction of Independent Study Performance in Secondary School." Dissertation Abstracts, 29:3044A, March, 1969.
74. Mitzel, Harold E. "The Impending Instruction Revolution." Phi Delta Kappan, LI (April 1970), 434-39.
75. Morrison, A., and D. McIntyre. Teachers and Teaching. Baltimore: Penguin Books, 1969.
76. Nelson, Lois N. (ed.). The Nature of Teaching. Waltham, Mass.: Blaisdell, 1969.
77. New Approaches to Individualizing Instruction. Princeton, N.J.: Educational Testing Service, 1965.
78. "The New Educational Design of Stillwater High School." Stillwater, Minnesota: Independent School District 834, 1967. (Mimeographed).
79. "New Opportunities for Expertness: Team Teaching and Flexible Scheduling, Symposium." Journal of Secondary Education, XXXVII (October 1962), 340-82.
80. Otto, Henry J. Nongradedness: An Elementary School Evaluation. Austin, Texas: University of Texas, 1969.
81. Patterson, Wade N. "Variable Period Scheduling." Bulletin of the National Association of Secondary School Principals, XLIX (October 1965), 66-9.
82. Peterson, A.D.C. (ed.). Techniques of Teaching. Vol. II, Secondary Education. New York: Pergamon Press, 1965.
83. Petrequin, Gaynor. Individualizing Learning Through Modular-Flexible Programming. New York: McGraw-Hill, 1968.
84. Plunkett, W.T. "Independent Study at Syosset High School." Phi Delta Kappan, L (February 1969), 350-52.
85. Polos, N.C. "Time to Learn: Tri-mester Flexible Schedule Plan." Journal of Secondary Education, XL (December 1965), 357-60.
86. Popham, W. James. "Focus on Outcomes a Guiding Theme of ES '70 Schools." Phi Delta Kappan, LI (December 1969), 208-10.
87. Rhodes, Lewis. "Linkage Strategies for Change: Process May Be the Product." Phi Delta Kappan, LI (December 1969), 204-07.
88. Robb, M.H. "Modular Scheduling at Euclid Central." Bulletin of the National Association of Secondary School Principals, XLVI (February 1962), 66-69.

89. Robinson, E.D. "New Look at Scheduling in the Small School." Bulletin of the National Association of Secondary School Principals, XLIV (March 1960), 50-52.
90. Rollins, Sidney P. Developing Nongraded Schools. Itasca, Ill.: Peacock, 1968.
91. Salt, S. "Glenbrook Schedules Classes in Twenty Minute Modules to Multiply and Divide Periods." Nation's Schools, LXXII (July 1963), 34.
92. Sewell, W.E. "Sensible Solution to Scheduling." School Management, VII (October 1963), 93-94.
93. Shane, Harold G. "A Curriculum Continuum: Possible Trends in the 70's." Phi Delta Kappan, LI (March 1970), 389-92.
94. Simon, Sidney B. "Grades Must Go." School Review, LXXVIII (May 1970), 397-402.
95. Smith, B. Othanel, Milton Meux, Jerrold Coombs, Graham Nuthall, and Robert Precians. A Study of the Strategies of Teaching. Urbana, Illinois: University of Illinois, 1967.
96. "Staggered Schedule Gives More Learning Time." School Management, VI (June 1962), 64-65.
97. Steinberg, Ira S. Educational Myths and Realities. Reading, Mass: Addison-Wesley, 1968.
98. Sturges, A.W. "Midwestern High School Schedule." Bulletin of the National Association of Secondary School Principals, XLV (February 1961), 91-96.
99. _____. "Scheduling Practices in Midwestern Secondary Schools." Bulletin of the National Association of Secondary School Principals, XLVI (April 1962), 43-50.
100. Swenson, Gardner, and Donald Keys. Providing for Flexibility in Scheduling and Instruction. Englewood Cliffs, N.J.: Prentice-Hall, 1966.
101. Trump, J. Lloyd. "Are You Asking the Right Questions?" Washington, D.C.: National Association of Secondary School Principals. (Mimeographed).
102. _____. "Evaluating Pupil Progress in Team Teaching." Washington, D.C.: National Association of Secondary School Principals. (Mimeographed).

103. _____. "Flexible Scheduling -- Fad or Fundamental?" Washington, D.C.: National Association of Secondary School Principals. (Mimeographed).
104. _____. Focus on the Individual -- A Leadership Responsibility. Washington, D.C.: National Association of Secondary School Principals, 1965.
105. _____. "How Excellent are Teaching and Learning in Your School?" Washington, D.C.: National Association of Secondary School Principals. (Mimeographed).
106. _____. "Images of the Future -- II." Washington, DC.: National Association of Secondary School Principals. (Mimeographed).
107. _____. "Independent Study." Washington, D.C.: National Association of Secondary School Principals. (Mimeographed).
108. _____. "Independent Study Centers." Bulletin of the National Association of Secondary School Principals, 1 (January 1966), 45-51.
109. _____. "Needed Changes for Further Improvement of Secondary Education in the United States." Washington, D.C.: National Association of Secondary School Principals. (Mimeographed).
110. _____. "Presentations and Other Types of Large Group Instruction." Washington, D.C.: National Association of Secondary School Principals. (Mimeographed).
111. _____. "Problems Faced in Changing a School to Improve Teaching and Learning." Washington, D.C.: National Association of Secondary School Principals. (Mimeographed).
112. _____. "Providing More Equal Educational Opportunities for Youth." Washington, D.C.: National Association of Secondary School Principals. (Mimeographed).
113. _____. "Secondary Education Tomorrow -- Four Imperatives for Improvement." Bulletin of the National Association of Secondary School Principals, 1 (April 1966), 86-95.
114. _____. "Small Group Discussion." Washington, D.C.: National Association of Secondary School Principals. (Mimeographed).
115. _____. "What is Team Teaching?" Washington, D.C.: National Association of Secondary School Principals. (Mimeographed).
116. _____. and Dorsey Baynham. Focus on Change: Guide to Better Schools. Chicago: Rand McNally, 1961.

117. _____ and William Georgiades. "Doing Better With What You Have." Bulletin of the National Association of Secondary School Principals, LIV (May 1970), 106-33.
118. _____ and Delmas F. Miller. Secondary School Curriculum Improvement: Proposals and Procedures. Boston: Allyn and Bacon, 1968.
119. Ubben, Gerald C. "A Look at Nongradedness and Self-Paced Learning." Audiovisual Instruction, XV (February 1970), 31-33.
120. Wallace, C.E. "Flexible Scheduling for the School Year." Journal of Secondary Education, XXXVII (March 1962), 132-35.
121. "What Schools are Doing." Nation's Schools, LXXXV (June 1970), 55-58.
122. Wiley, W. Deane, and Lloyd K. Bishop. The Flexibly Scheduled High School. West Nyack, New York: Parker, 1968.
123. Wilhelms, Fred T. "Priorities in Change Efforts." Phi Delta Kappan, LI (March 1970), 368-71.
124. Wilson, Charles H. "Educational Innovation: Are Schools Going Overboard?" Nation's Schools, LXXX (November 1967), 66-68.
125. Yerby, R.M. "Flexible Scheduling: Some Critical Questions and Experiment." Journal of Secondary Education, XXXVII (April 1962), 197-200.

THE IMPLEMENTATION OF A MODULAR SCHEDULE
AS A MEANS OF INDIVIDUALIZING INSTRUCTION
IN A SMALL SECONDARY SCHOOL

by

SISTER PEGGY HOUSE

B. A., Alverno College, 1963

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1970

ABSTRACT

In American education today there exists considerable dissatisfaction with the instructional procedures of the past and growing demand for sweeping educational revolution. This trend, both in theory and in practice, is rooted in new understandings of the roles of both teachers and learners in the educational enterprise.

Learning is recognized as activity which must be goal-directed and which demands self-activation on the part of the learner. The educational process, therefore, necessitates definite objectives clearly stated in behavioral terms and evaluative measures effective in assessing the achievement of these goals. Further, education must be personalized to meet the needs of each student, and this individualization must encompass not only the activities but also the very objectives of education and their evaluations. The learning process must be individually fitted to the learner. The teaching act must consist precisely in supplying the environment in which learning can occur.

To achieve these goals, educational structures and processes must be renovated. One significant means to achieving this renewal is through the adoption of a modular or flexible schedule, a measure which is possible and realistic even for very small schools with limited means.

An example of such a successful adoption is the case history of Pope John XXIII Central Catholic High School in Elgin, Nebraska. Although small in size and limited in resources, this school has, in three years, made significant strides toward the achievement of individualized

education. The process was an evolutionary one demanding transition to new modes of instruction, careful self-evaluation and planning, and creative innovation and experimentation. It demanded the cooperation of every member of the school community, and its success was due in largest measure to strong administrative leadership, cooperative and imaginative faculty involvement, and active student participation. Limitations of personnel, time, resources, and public understanding posed the most serious obstacles and remain an ever-present challenge.

After three years of growth and development, however, there exist strong encouraging indications that a modular program, properly implemented, offers the potential for qualitative differences in educational outcomes based on individual human growth.