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An Administrator's Guide to Modular Scheduling in the Secondary Schools

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AN ADMINISTRATOR'S GUIDE TO MODULAR SCHEDULING IN THE SECONDARY SCHOOLS

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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

I. INTRODUCTION

Modular scheduling, sometimes referred to as flexible or variable scheduling, is a relatively new concept in education. Prior to Sputnik, the master schedule received little attention as a part of the educational process. However, with the new demands of math, science, and foreign language, the inadequacies of the master schedule became apparent. It was observed by many educators, among them J. Lloyd Trump, that not all subjects lent themselves to the traditional one hour per day, five days per week cycle or its variations built around the Carnegie Unit.

Other deficiencies were noted. It was generally agreed that use of facilities was poor under the regular schedule. While some classrooms were over-loaded, many stood vacant several periods during the school day. Large and small groups alike met in medium-sized rooms. Larger and smaller rooms were needed. Private offices seemed necessary for effective teacher-student conferences and for teacher preparation. In addition, optimum staff utilization was non-existent. Teachers were seldom available for conferences with students, parents, counselors, administrators, and other teachers. Students themselves experienced little contact with each other and were strictly limited in

not only the number of courses they could take, but also in the time they could spend on any one subject. Under the traditional schedule, the students were handicapped as they had no opportunity to pursue their interests and talents and had little chance to receive aid or direction from teachers and other students. It appeared obvious that the traditional arrangement of classes was no longer adequate to meet the needs of the student or the teacher in modern society.

Attempts to break the rigidity of the conventional schedule had been tried for several years. Bloc scheduling, rotating periods, and other variations were attempted; however, the scheduler was limited in the degree of actual change he could make from the Carnegie Unit. The problems of facilities, staff, and students still existed.

The logical answer in this age of technology was to go to the computer. There are currently two computer programs available on the West coast to assist schools in generating true time variation or modular schedules. These programs are not "sectioning" or "loading" programs. They actually build a master schedule from the resources available from the school (instructors, rooms, students, time.)

The two programs are Stanford School Scheduling System (SSSS or 4-S) and Generalized Academic Simulation Program (GASP). SSSS was developed at Stanford University

with the financial aid of the Ford Foundation and was first tried during the 1963-64 school year. GASP was developed at M.I.T. by Bob Holz and was first used during the late 1950's. Among early GASP users were Wayland High School, Wayland, Massachusetts; Ridgewood High School, Norridge, Illinois; Cohasset High School, Cohasset, Massachusetts; and Pascack Hills High School, Montvale, New Jersey.

In the State of Washington in the early 1960's, administrators watched with interest the GASP and 4-S scheduled schools. Finally, in 1964, Dr. Harry Finnigan, then vice-principal of Ferris High School in Spokane, took on the monumental task of hand scheduling an 800-student high school, using the modular concept. After several months of three-dimensional work in his basement, Dr. Finnigan developed a workable modular schedule, one based on twenty-seven 15-minute time modules. Northwest educators watched closely the program at Ferris. Bend High School in Bend, Oregon, and John Marshall High School in Portland, both on 4-S, generated much attention as well.

In 1966, on the basis of Ferris' success in using GASP, the Department of Education of the State of Washington offered to sponsor several secondary schools on an experimental basis using the GASP scheduling system. The schools chosen were Joel E. Ferris High School (1950 enrollment), Selah High School in Selah (640 enrollment),

and Glendale Junior High School in the Highline district (623 enrollment). Each of these schools is now operating under a modular schedule.

II. THE PROBLEM

Statement of the Problem

This study assumes interest and recognition by administrators of the profound need for organizational change. The study will attempt to utilize the experiences of schools experimenting with modular scheduling in order to establish guidelines for administrators who wish to promote innovative scheduling in their own districts. It is the purpose of this study to show that modular scheduling is possible and can offer added benefits for any school district.

III. DEFINITION OF TERMS

Class

A scheduled meeting of a section of specific students and instructional staff, meeting at a specific time and place.

Course

A unit of instructional material taught during a specific time period (semester or year); for example, French is a subject, but French II is a course.

Honor Pass

A practice, often using a card or pass, which permits students to exercise their judgment about how independent study time is spent.

Independent Study

Instruction in which the student engages in activities independent of other students and in large part independent of immediate teacher direction.

Large Group

Class meeting which utilizes all or part of the students in one subject matter area for the purpose of a formalized presentation.

Medium Group, Laboratory

An average-sized class of anywhere from 15 to 45 students and one teacher. This grouping most resembles the traditional class.

Modular Schedule

A method of dividing the school day into varying units of time, allowing for any length period deemed appropriate for a particular class or course meeting.

Module

A unit of time.

Resource Center

A special study area usually designated for a particular subject field. These centers are equipped with books, maps, charts, film-strips, and other self instructional devices.

Run: (Computer Run)

A term used to describe the processing of input material by the computer to put into the hands of the administrator a completed schedule.

Satellite Resource Center

A resource center which depends on a larger resource center for a continual supply of resource materials designed for specific class units.

Seminar

A class meeting of a small group of students (12-15) for the purpose of discussion and clarification of concepts introduced in large-group meetings.

Teacher Aids

Non-certified personnel hired by the school district to assist in clerical and quasi-professional tasks. Some instructional tasks are assigned to qualified lay people.

Team Teaching

The integration of professional staff, support staff, and resource people into a productive unit to carry out a particular course cycle.

IV. METHOD OF ATTACK

To best take advantage of the experiences of schools on modular scheduling, personal interviews with principals and assistant principals were held. A formalized check list to gather important facts was utilized. Schools visited and interviewed were Bend High School, Ferris High School, Selah High School, Glendale Junior High School, and Morgan Junior High School.

The choice of schools was made on the basis of available schools experimenting with modular scheduling within or near the State of Washington. The five schools chosen represent differing economies, geographic settings, and school populations. Two of the schools are junior high schools and thus give a varied experience from the three high schools.

V. ORGANIZATION OF REMAINDER OF THESIS

The remainder of this paper is divided into four parts. The review of literature identifies trends in modular scheduling. The importance of schedule revisions and discussion of schools which have attempted schedule modification are treated in this section. Also included in

Chapter II are comments on the limitations of previous studies and the need for further research.

The purpose of Chapter III is to present the results of the field study and interviews.

The text of Chapter IV is entitled, "An Administrator's Guide for Initiating a Program of Modular Scheduling in the Secondary School." A model for introducing change is developed and can be utilized by any administrator developing a modular program.

A summary and suggestions for further recommendations is presented in Chapter V.

CHAPTER II

REVIEW OF LITERATURE

I. IDENTIFICATION OF TRENDS

J. Lloyd Trump must be given credit for making America aware of the concept of modular scheduling. Since his publications, starting in 1958, many educators have seen the possibilities inherent in his suggested innovations.

Few schools have been on true modular scheduling for more than five years as of this writing. Eastern schools seem to be quicker to try the innovations than Western institutions. Thanks to professional literature, administrators and teachers have been made aware of scheduling trends, both theoretical and practical.

Modular scheduling is simply the best method of carrying out the ideas of large and small group instruction and team teaching. Conant recognized the need for a seven or eight period day "...organized with periods as short as 45 minutes. Under such an organization, lab periods as well as industrial arts courses should involve double periods" (10:64). Keller questioned the traditions of most American schools: "Why must a period last forty-five minutes or one hour, or any other standard time? Why must there be any study periods, and why should the same sequence of subjects be followed each day?" (15:264-265).

One of the earliest bits of research on schedule innovation was by Paul; he indicated that when class periods were cut from fifty-five minutes to thirty minutes, the experimental group learned only 8 per cent less in 46 per cent less time (objective test measurement). Sixty per cent of the experimental groups preferred the shorter class periods (21:480-83).

By grouping students taking the same requirements into large blocs for instructional purposes, we are confronted with the problem of space. Hagman stated that it is "...still necessary to match classrooms or other space for learning with people...both pupils and teachers...and to coordinate both on a time schedule" (12:21). Bush and Allen claimed that:

> Class size, length of class meeting, and the number or spacing of classes ought to vary according to the nature and aim of the subject, the type of instruction, the level of ability and interest of the pupils, and the aim and purpose of the teaching (8:2).

Bair and Woodward declared that:

> The need to group and regroup pupils frequently to insure continuous pupil progress dictates the provision of spaces of varied size and function to be used in a variety of ways for varying lengths of time...Emphasis on more effective utilization of personnel necessitates space for the individual and the team to confer, to plan, and to study (3:36).

The best use of space brings up the question of the best use of teacher time. Trump ventured that the teacher might actually "...get in the way of the learning process

if the wrong role is played" (28:7). Gnagey also questioned the best use of the teacher's time. In his experiments he found that although the teacher might be indispensable to morale, the students usually learned as much in a seminar situation by themselves as they did when the teacher was present (11:73). The old spoon-feeding method of teaching is being replaced with a new motivation for self-inquiry and exploration. The National Citizens Commission for the Public Schools recognized that "today the rule is flexibility, the modern teacher sits and moves with the group as a member of it" (20:17).

In speaking of some experimental changes in class schedules, Lobb remembered:

> Two of the major obstacles to attaining the most effective use of staff potential in secondary schools have been the inflexibility of the daily schedule and the rigidity of the class size concept. Problems which have arisen are: (1) the inefficient, uneconomical use of staff time, especially for activities which could be handled in large groups; (2) the stifling of the initiative and creativity of teachers by over-routinism; (3) the restriction of innovation in school practices caused by planning school plants on the basis of regimented class size; and (4) the shortsighted subordination of flexibility to stability in much educational planning. Careful investigation of adjustments in organization of classes and utilization of staff is required (16:110).

Considering these innovations, Allen felt:

> The objective is not change for the sake of change, but rather the consideration of possible modifications, presently excluded simply through the inertia of the force of tradition. Such modifications may well harbor potentials in learning which are not now possible (1:34).

Bush continued:

> The inflexibility of a traditional schedule is preventing many educational reforms from being put into practice; the need to be clear in the educational purposes intended by flexible scheduling is stressed; all students do not need the same amount of time to learn specific things, nor do they come to school with equal backgrounds and talents (7:30-34).

Generally, most authors agree that freeing the student of the traditional class size of twenty-five to thirty-five is quite important. Holland observed that:

> No classroom is sufficiently self-contained to allow the ablest and most ambitious students to extend themselves fully within the confines of that room in a given subject no matter how long the period may be (13:59).

Andree recognized the value of flexible scheduling to provide for large classes in order for the high school student to make an easier transition to college:

> For the high school pupil who has been spoon-fed in classes of 25 or less, attending a college class of upwards of one hundred students and the resultant sudden thrust of responsibilities upon the individual were often traumatic and debilitating experiences (2:334).

The trends toward organization of school plans is no longer primarily for administrative convenience, but must be toward the facilitation of instruction according to Beggs:

> The time has arrived when high school administrators are designing new organizational plans which are based on sound rather than fallacious assumptions regarding the learning process and the nature of individual differences. Administrators are at work renovating two of the most formidable impediments to educational progress ...the table of organization and the schedule of the school (4:76).

In speaking of the traditional scheduling practices, Morse made a good argument for modular scheduling when he stated:

> In endless thousands of brick-and-glass buildings they sit in uniform groups of 25 to 35. They remain in the same room virtually the entire day. They receive all their lessons from the same teacher regardless of her strengths and weaknesses (19:11).

Lloyd Trump as early as 1958 was predicting drastic changes in secondary education:

> The schedule of classes will be planned cooperatively by teachers and students so that it will be possible to assemble different sized groups of students whenever the need arises. Instead of the rigid schedule planned one semester or more in advance, there will be periodic regroupings of students to serve better the purposes and methods of instruction as devised from time to time. Periods will not be of uniform length; they will include 30 to 40 minute sessions when large group instruction is taking place and periods of two to three hours when students are working on individual and small group projects. Incidentally, the secondary school of the future will not be disturbed with the constant ringing of bells as has been the case in the past. The time which students spend under the direction of the teacher will be varied in terms of need (28:12).

II. INITIATING PROGRAMS OF MODULAR SCHEDULING

To initiate any new program takes courage. It is much easier to maintain the status quo and bask in the collective favor of the community. Yet, when change is imminent, when it will improve the quality of education, we must be prepared to insist on change. As previously mentioned, most programs that have been initiated have been in the Eastern states. Stanford University in California has

probably contributed more for our Western states as far as promoting and doing research in the field of modular scheduling. Bush and Allen, members of the staff of Stanford University, offer to the administrator the suggestion that:

> Schedule modification implies change, but that change need not be a change in objectives or even procedures. It may mean only a more efficient implementation of current patterns. In this situation, schedule modification explicitly points toward a higher yield, almost invariably without the use of additional resources (8:151).

In setting up the new program Bush and Allen suggested:

> What kind of program is most effective and what resources are needed to implement it? Or, given certain resources, how can the most effective program be constructed? Schedule flexibility may involve an administrative decision requiring only rearrangement of time allotments and sequences for established courses. Viewing the curriculum as an area consisting of modular units offers a means of overcoming limitations of many curricular "givens" which are imposed by the sheer force of tradition (9:73).

Most of the pilot studies surveyed felt that they had greater utilization of the staff, the physical facilities, and the student potential. Price states:

> In these pilot studies, a framework was set up to show ways in which capable teachers could give effective instruction to an increased number of pupils. Flexible scheduling procedures were established to implement the program (22:160).

Wynn pointed out:

> This growing use of flexible groupings in both elementary and secondary programs represents a major innovation in American school organization. Carried on usually in conjunction with team teaching or educational television, these ventures are accompanied often by new patterns of staff deployment, new patterns of curriculum organization and presentation, and new patterns of

curriculum organization and presentation, and new patterns of utilization of space and materials (31:73).

The following statement from Johnson, Lobb, and Patterson is a good summarization of the reaction of many of the schools which have recently experimented with modular scheduling:

> At the Golden Senior High School, an experiment in schedule modification combined with the teaching team approach is being tried. One assumption of the experimental program is that the traditional scheduling pattern, developed primarily for administrative convenience, does not provide for the best utilization of time available or of the unique capabilities of the staff (14:12).

III. LIMITATIONS OF PREVIOUS STUDIES

It is obvious that research is just beginning in the area of schedule modification. The experiences of many schools plus the use of computers for programming schedules will expand greatly our possibilities in this field. Change always means moving people out of their comfortable ruts, and so change in scheduling will probably follow slowly other educational trends. Bush stated it well:

> I have been encouraged that we are opening doors, but we still remain too timid in our approach. We add a period or half a period at the beginning, a period or half a period at the end, and feel this is going to solve the problem. There is also danger lest we adopt a flexible schedule and make everybody fit into it. There is danger of becoming obsessed with another set of mechanics (7:321).

CHAPTER III

RESULTS OF THE FIELD STUDY

The desirability for master schedule innovation was determined by the administrative staff well in advance of the actual schedule change in all of the five schools interviewed. Of initial and particular importance was the preparation of community, staff, and students.

I. PREPARATION FOR CHANGE TO MODULAR SCHEDULING

Community Preparation

To prepare their communities for schedule change, all school districts interviewed made use of local newspapers as a means of informing the public of the increased benefits of schedule innovation.

In the Spokane district, mimeographed materials were made available to parents of junior high age students who would be attending the new Ferris High School. Service clubs and the Parent-Teachers Association were also utilized as public relations vehicles. At Glendale Junior High open meetings were publicized and held with administrative staff answering questions about the proposed changes. At Morgan Junior High groups of thirty parents were invited to attend meetings to discuss schedules and facilities after their child had registered. Special use of the local newspaper was made by Morgan with a large fold-out, depicting a typical

modular school day for two of Morgan's students. Bend officials taped interviews and informative programs which were aired on local radio stations. In addition, public meetings were held in the high school auditorium, and Bend's principal spoke to service clubs in the community. At Selah High School a slide presentation was prepared by the superintendent of curriculum; the slide series with accompanying synchronized tape was shown to the community at open house and at various service organizations. This presentation told the story of team teaching and independent study in picture form and described the need for schedule innovation to best support these concepts of instruction. The slides and tape are continually updated and presented annually as a continuous public relations effort.

Staff Preparation

With the exception of Bend, a pioneer in modular scheduling in the Northwest, the surveyed schools used visitations to innovative schools as a part of their teacher orientation. Ferris, being a new high school, started its program with a completely new teaching staff. The selection of this new staff included interviews to determine why the teachers were interested in the type of program proposed by the district. An eight-week summer workshop was held before the new school opened to allow the staff to work together developing a philosophy and a curriculum to accompany the

new scheduling concept. Ferris continues to hold two-week workshops each summer, using existing staff to prepare the workshop agenda for the new staff members. At Bend, rather than by subject matter areas, the staff was divided into groups to study the nature of the different modes of instruction. Outside consultants worked with these groups and helped them determine the philosophy of instruction for Bend. This school also initiated a summer program of curriculum development to allow the staff to participate in updating the curriculum to meet the demands of a modular schedule.

Both Glendale Junior High and Selah High School used back-to-back scheduling, seminars, and limited team teaching to allow for staff experimentation to prepare for the more sophisticated modular schedule.

Student Preparation

Student orientation varied greatly with each of the schools surveyed. At Morgan Junior High, sixth grade students were invited to spend a day in May at the school with a seventh grade buddy whom they followed through a typical modular day. Glendale's staff had the responsibility of student orientation after the school year began. Ninth grade students at Selah High School received orientation through their regular freshman English classes. At Ferris, junior high students were bussed to the campus the day after Ferris' graduation and given a tour and orientation by

graduated seniors who volunteered to return for this task. All first year high school students at Bend were given group guidance in the principles of the school philosophy for two modules each week. All schools made use of their handbook to explain their particular schedule to their student body.

II. ROLES OF THE ADMINISTRATION

The Superintendent

In all districts the role of the superintendent was to support and encourage his administrative staff. While not all superintendents were expert in their knowledge of modular scheduling, each gave the necessary encouragement and acted as an effective liaison between principal and school board.

The Principal

The principal as educational leader of his school had the final responsibility for orientation, implementation, and evaluation of the modular program in all of the schools interviewed. Probably the most important leadership role was that of staff motivation and direction. In all schools the principal accompanied his staff members on visitations and led the evaluation sessions of their visits. It was the responsibility of the principal in all districts to establish workshops and arrange for resource people from outside their own districts. At the larger schools, like Bend and Ferris, the role of the principal became primarily that of a public

relations person for the program. In the other schools the principal not only had the task of public relations, but also the specific problems of implementation.

The Assistant Principal

In four schools, one of the main functions of the assistant principal was to assume responsibility for schedule construction. The exception was at Morgan Junior High where the vice principal took over the job of "running the school" while the principal worked with the staff on curriculum reorganization, evaluation, or worked with some phase of the schedule. In the case of Ferris and Bend, the master schedule was the sole responsibility of the assistant principal.

Another function of the assistant principal at all schools was the sharing with the principal the task of meeting and escorting the myriad of visitors attracted by change in instructional design.

III. THE MODULAR PROGRAM

Team Teaching

All of the schools interviewed practiced the concept of team teaching in their program. The number of teachers on a team varied from a maximum of seven at Ferris to five at Bend with no established number at Morgan, Selah, or Glendale. Each of the latter, however, had a practicing limit of three.

The practice of designating a team leader for each teaching team was widespread throughout the schools. Bend had the most democratic method of selecting their team leaders with members of the team voting on the leadership role. At Glendale the team leader was the department chairman. At Selah the team leaders in English were chosen by the chairman of the English department, and all other team leadership was unofficial and evolved by natural process as the teams worked together. Experienced team members at Ferris applied to the administration for the position. Team leaders were selected by the principal on the basis of preparation in their field and experience at Morgan Junior High School.

Ferris paid team leaders an extra two per cent for their leadership, but no other school surveyed paid extra for the role of team leader.

Most of the schools attempted to team teach in all areas where there was more than one instructor teaching a given subject. Neither Bend nor Selah included shop in their team teaching programs; Selah excluded art from any joint effort. Glendale and Ferris used team teaching in all areas, but Morgan Junior High team taught in English and social studies only. A major factor in team teaching at all schools was the availability of staff to constitute a true team situation.

The Large Group

The maximum number of students desired in large group varied directly with the school population. At Ferris large groups ran between 250 and 300. At Bend some large groups could have been as large as 250, but were between 120 and 150 normally. Morgan Junior High had 135 as a maximum for large group while Glendale had a ceiling number of 220. At Selah the maximum for a large group was dictated by the number in any one class or whether a teacher would request two sections of one class. Selah's large groups never exceeded 140.

Large group lectures varied in duration and frequency in all schools according to subject matter. Morgan Junior High had the fewest large group lectures at one per week with a maximum of two 18-minute modules. Glendale chose three modules, or forty-five minutes, once per week for all lectures except mathematics which met twice weekly. Ferris also used three 15-minute modules meeting twice per week for academic subjects and once per week for electives. Bend used two module combinations for the most part, meeting one, two, or three times per week, depending on subject area. Some one hour combinations were also used at Bend. At Selah the lectures varied from two to four modules, again depending on subject area. Frequency was never more than twice each week. As all schools were experimenting with the length of the

large group meetings, it was assumed that changes in both duration and frequency would be made based on experience.

The Small Group

Small groups or seminars were part of the team teaching concept utilized by all of the surveyed schools. Glendale's small groups met for a maximum of two 15-minute modules while all other schools used a combination of two and three module small groups. The frequency varied with the subject area; in all schools small groups met either two or three times per week. The philosophy or basic purpose of the seminars was generally uniform for all schools. Bend used them for student involvement and the chance to react; Morgan's staff used the terms "feedback" and "interrelation" to describe their small groups; Ferris, Selah, and Glendale said "student discussion" was the main function of their seminars. Morgan and Glendale scheduled not more than twelve students to a small group, and the three high schools scheduled not more than fifteen. All schools felt that it was important for the teacher in charge of seminars to know the role of the teacher and his students in an effective discussion session.

The Laboratory or Medium Group

Laboratories or medium groups were used in a variety of ways among the five schools. At Bend and Selah the term

"medium group" designated a traditional teacher-centered class, meeting on a regular basis. Laboratories at Bend could be any length from one to six modules, but meant a class which was task oriented to the student. Ferris' philosophy of the medium group was to provide an opportunity for inquiry and teacher contact. Ferris conducted laboratories for the improvement of skills and for giving presentations, skits, or demonstrations. Glendale maintained that the purpose of the medium group was, in main, skill building and directed study. Teachers at Morgan Junior High believed the medium group served best when it provided opportunities to expand information presented in large group. Glendale's medium group varied from twenty-four to forty-eight students; all other schools set a maximum of twenty-five.

Independent Study

The amount of unscheduled or independent study time varied with each school. Bend averaged 40 per cent for their student body while Ferris had an overall average of 32 per cent independent study time. Selah averaged about 33 per cent for all grades. At the junior high schools Morgan had 25 per cent at grade 7, 30 per cent at grade 8, and 35 per cent at grade 9. Glendale had 13 per cent at grade 7, 16 per cent at grade 8, and 20 per cent at grade 9.

IV. SPECIAL PROVISIONS

Resource Centers

Provision or facilities for independent study also differed markedly with the schools surveyed. At Bend resource centers were provided for business, social studies, mathematics, English, and vocational subjects. Besides these, an open resource center for media equipment was provided for the students. Some of the space problem at Bend was solved by the use of two portable units used as resource centers. All of the resource centers at Bend were staffed with lay personnel.

Ferris High School had resource centers in social studies, English, mathematics, art, physical education, and biology. Ferris solved some of its space problems by the use of partitions in the regular classrooms. Selah High School provided centers for English/social studies, science/math, commercial, and foreign languages besides the main educational resource center. Selah also created a satellite resource center located in the main resource center which was used on a swing basis among disciplines. The purpose of this center was for maximum use of multi-media for given units. Morgan Junior High built two rooms adjacent to their library which were used as resource centers for social studies, English, and health, as well as for discussion groups. At Glendale resource centers were provided for math

and English/social studies, in addition to a special reading laboratory. All of the schools made extensive use of paperbacks, magazines, and filmstrips in their resource centers. All schools except Morgan taped their large group lectures and made these available to students in either a resource center or in the library. At the high schools filmstrip viewers, single concept 8mm films, overhead projectors, tape recorders, micro-film viewers, and other audio-visual hardware were provided for the students.

Honor Pass and Study Halls

Bend and Ferris had both phased out their honor pass program and their study halls. Students not in class at these high schools could either go to a resource center, or, in the case of Bend which had an open campus, go home. At Selah High School all eleventh and twelfth grade students automatically received honor passes which relieved them of study hall attendance while not in class. Ninth and tenth graders at Selah could apply for an honor pass after they had displayed responsible school conduct and normal application to their studies. All students without honor passes at Selah were scheduled into a traditional study hall. All students at Morgan and Glendale were scheduled into traditional study halls but could check out to a resource center. Morgan had an honor pass system where the qualifying student

wore a "tiger pass" badge which exempted him from compulsory study hall attendance. Of the schools surveyed, only Bend had an open campus.

Provision for a student lounge or student center was made for upper-classmen only at Selah High School by building a separate room designated for that group only. An apple, ice cream, and pop machine were installed for student use. At Ferris and Bend the cafeteria was used as a student lounge area. An apple machine was located in Ferris' cafeteria. Bend had a coke machine, an ice cream machine, and a juke box for their students. No provision was made in either junior high for a student lounge, but Glendale did have an apple machine.

Lunch

Lunch for students on a modular schedule is necessarily served over a longer period of time than lunch for students on a traditional schedule. At Bend the lunch period started at 11:35 and ended at 12:47, or five modules in length. At Ferris and Glendale the lunch was served from 11:00 to 1:00, or eight modules. At Selah lunch was served from 11:15 to 12:45, or six modules. Morgan's lunch extended from 10:56 to 12:30, or six modules.

Assemblies

Special time for students to meet in assembly was built into the schedule in all schools except Ferris. Ferris reserved one module per week for the student council, but all other student activities were held after the end of the school day. At Bend modules two and three were reserved on Fridays for activities. Glendale used modules one through four on Wednesdays for activities. At Selah, home room and module one were used on a rotating basis (i.e. a different day used each week for activity period). Morgan cut one minute from each module on activity days so that by the end of the day, twenty-five minutes had been saved for student activities and all school assemblies.

National assemblies were difficult to schedule, especially since advanced notice of program date and time was not usually available. Bend dropped their national assembly program entirely, while Selah used only a select number and worked them through one of the large group lectures. Ferris and Glendale extended home rooms to take care of national assemblies or other all-school assemblies.

V. SCHEDULE GENERATION

Preparation of Input Data

The input information for all modular schedules came first in the form of requests by teachers and team members

at all schools. At Bend the assistant principal was in charge of preparing the input data for the Stanford 4-S program. Glendale's principal and vice principal worked together, compiling input data for the GASP program. The boys' counselor assisted Selah's principal in preparing input data, while at Morgan Junior High School the principal alone assembled all of the basic information for the 4-S program.

Cooperating Organizations

Bend and Morgan, scheduled by 4-S, worked with a California firm, Educational Coordinates of Palo Alto. Ferris, Glendale, and Selah all worked with the Washington State Department of Education which sponsored their pilot programs.

Cost

Cost for schedule generation varied with the size of school, the number of runs necessary, and whether or not the school was subsidized by the state. The 4-S program averaged about three dollars per pupil. The state subsidized programs cost the participating districts approximately two dollars per pupil.

Time and Length of Modules

The length of time it took to generate a schedule from the first gathering of input data to the actual

implementation of the schedule was difficult to assess. Bend with the most experience in modular scheduling, estimated four or five weeks. Glendale said 240 hours; Ferris estimated six hours per week from December through April and then full time until school started. Selah calculated four to five weeks full time work of two people to get a satisfactory schedule. All schools except Morgan chose the fifteen minute module on the basis of computer flexibility. Bend used twenty minute modules at first and then changed to fifteen. Morgan started with seventeen minute modules, but moved to sixteen for more flexibility.

Evaluation

All schools had taken rudimentary steps to evaluate their programs. Each surveyed school claimed that attitudes of the great majority of their staffs and students had been highly positive toward the modular program. It was the general feeling of both faculty and students that modular scheduling, with its emphasis on individual student responsibility, had afforded educational advantages not possible under the traditional schedule. Each school was in the process of compiling the results of student opinion surveys to support this generalization.

In addition to the attitude surveys, educators at each school were using the indications of standardized tests, regular course tests, and classroom performance as guides.

The programs at these schools were still too new to show any significant changes in standardized test scoring.

CHAPTER IV

AN ADMINISTRATOR'S GUIDE FOR INITIATING A PROGRAM OF MODULAR SCHEDULING IN THE SECONDARY SCHOOL

On the basis of the following information, this writer is convinced that modular scheduling provides an excellent opportunity for an administrator to improve the quality of education in his district: (1) Reading of professional literature; (2) Teaching under both the traditional and modular programs; (3) Administrating under both the traditional and modular programs; (4) Actively participating in the building of a modular program; and (5) Surveying the five schools discussed within this paper.

An administrator who recognizes the need for master schedule revision and who wishes to initiate a program of modular scheduling must take certain preparatory steps. First, he must educate and prepare himself, the administrative staff, the teachers, the board of education, the community, the students, and non-certified personnel. Second, he needs to devise means for these groups to communicate with each other in a productive fashion. He must work to provide the resources and facilities needed. The administrator must make decisions regarding important details of the new program: the exact scheduling of the large groups, seminars, and independent study; provisions for honor pass, study halls, assemblies and a student center.

Finally, the administrator is responsible for seeing that computer input data is thoroughly and properly prepared.

The writer proposes the following model for a staff to prepare for and generate a modular schedule.

I. PREPARATION FOR CHANGE

The Superintendent

The superintendent as the educational leader of his district should have a thorough understanding of modular scheduling if he hopes to move his school successfully into the new program. His education should begin with reading literature pertaining to modular scheduling. A list of appropriate materials for administrative review is listed under the section on evaluation.

The superintendent can gain much first hand information by visiting and corresponding with schools now operating under a modular plan. Visitations are particularly helpful because they provide an opportunity for face-to-face accounting of administrative problems. Workshops conducted by these schools, the State Department of Education, or professional organizations should be of vital interest to the Superintendent and his staff.

The Administrative Staff

All of the steps suggested for the superintendent can apply to his supportive staff--assistant superintendents,

curriculum consultants, principals, and assistant principals. The superintendent should include these people from the beginning in the investigation. Specifically, he should make available to them any literature, films, film strips, and correspondence pertaining to schedule change. The superintendent should include his staff on visitations and workshops as well. Important in preparing the administrative staff are frequent meetings with them to discuss the information gathered and to determine staff beliefs concerning changes needed in their own district. The administrative staff must be able and willing to freely communicate their ideas in these meetings if a rationale for change is to be developed and a successful innovative program established.

The Teaching Staff

After the superintendent and his immediate staff have an understanding of the philosophy of modular scheduling and are aware of at least the major elements of generation and implementation, there is a need for the teaching staff to become involved in preparation. The literature gathered by the administration should be circulated among the teachers. The films and film strips should be shown at faculty meetings and should be followed by discussion with both the principal and superintendent present to lead discussion and answer questions. When the staff has become somewhat knowledgeable and interested in the innovations, visitations to innovative

schools should be arranged. These visitations must be planned for regular school days so that the teachers will see the modular school in action and have the opportunity to talk with administrators, teachers, and students. This necessitates the hiring of substitute teachers. Since time and finances make it impractical to include all teachers on the visitations, the principal will need to make selections. Key personnel, such as department heads, representatives of several disciplines, and both experienced and new teachers should be included. The trips should be followed by meetings where those who made the visitations can discuss the experience. Discussions in panel form presented to the faculty can generate enthusiasm as well as communicate information.

Specific and valuable information is also gained when experts in the area of schedule innovation are invited to speak before a school's teaching staff. Superintendents, principals, assistant principals, and often teachers who have been a part of a successful modular program are available for consultant services. The money used to defer their expenses is well spent.

To give teachers practical experience in the modes of instruction they will use with modular scheduling, arrangements should be made for some experimentation with large group lectures, seminars, individual study, and team teaching. Teachers should be encouraged to work together to

group classes for the large meetings, separate them for the seminars, and prepare units cooperatively to provide for individual study assignments. Creative teachers can function in a limited way with the facilities and resources available in conventional buildings to simulate these modes of instruction. Their efforts will give them insight into the appropriate learning activities that a modular program can provide for students. The experiments in the schools surveyed indicated that the new modes of instruction demanded schedule revision. Evaluative methods should be determined prior to implementation of the innovations and evaluation of the program must be a continuous process.

Teachers should be encouraged to work within their departments in planning the types of schedules they would prefer if given the opportunity to make significant changes in class sizes and length and in frequency of class meetings. It is highly recommended that a summer program of curriculum development be organized where teachers are paid to build a curriculum and a schedule prior to school-wide change. Summer workshops following the implementation of a new program are vital to examine the progress being made toward established goals. Orientation workshops for new staff are necessary and should be conducted by experienced teachers.

Vitally important to the success of any innovation is the sincere and constant encouragement of the teachers

by the administration. They should be advised that it is they who will select the exact character of the proposed program, submit the information and requests, and eventually implement the program. Every effort should be made to incorporate their ideas into the final schedule.

The importance of complete involvement of the teaching staff cannot be overemphasized. Every effort must be made to insure that teachers become active proponents of modular scheduling; mere cooperation without enthusiasm on their part is not sufficient to initiate successful change.

The Board of Education

It is not to be supposed that during the preparation by administration and teaching staff that the board of education has been completely excluded from any knowledge of the investigation. It is the superintendent's responsibility to keep the board aware of the work being done. Since board approval of innovation is necessary, the superintendent must constantly function as the proponent of the plan and as a liaison between the teaching staff and the board members. He must also remember that many community members hold the board accountable for the school's program; they must be committed to the proposed change and must understand the principles and underlying reasons for this change.

At a regular meeting of the board, members of the teaching staff should present their views, based on their

professional reading, visitations, and experimentations with team teaching, large group, small group, and independent study.

The Community

Acceptance of innovation by the district patrons depends more than a little on whether the community has been adequately informed of proposed changes. After deciding on a course of action for schedule innovation with the school board and teaching staff, the administrator should have a long-range, well-prepared program of public relations ready to present to the community. The following is a list of methods in capsule form which this writer has observed to be valuable in preparing a community for change.

Newspaper coverage. Newspaper articles, ranging from announcements to editorials. Fold-outs, showing a student's typical schedule under the modular plan.

Radio and television. Informative taped programs of the interview and panel type.

Mimeographed material. Explanations of the program or announcements of meetings sent home with students.

Films and film strips. Audio-visual material shown at special school meetings, open house, Parent-Teacher Association meetings, and meetings of such local organizations as the Chamber of Commerce, Kiwanis, and the Lions Club.

Presentations. School staff presenting views and answering questions at school and local organization meetings.

Word of mouth. Encouragement of teachers to discuss schedule innovation with community members in a positive way.

Active involvement of community. Inclusion of key citizens from the inception of the program. For example, including them on visitations and having them serve on an advisory board to investigate modular scheduling and report their findings.

Continued public relations. The use of newspapers to report progress and report any recognition the students or the program received. The construction of a district film or film strip to depict the operating program.

The Students

Too often the students are the last ones to be informed of the direction they are expected to go. Administrators seem reluctant to include students, and yet it is their program. Their approval and cooperation will help determine its success. Many high school students are interested and competent and can be helpful in initiating a new plan for education.

The experience of the large group, the small group, independent work, and team teaching will do much to prepare

students. In addition, the most direct means of preparing students is by the simple method of discussing the concepts of modular scheduling with them as a part of their class work. Teachers can set aside time for students to discuss such items as individual responsibility for learning and behavior, the honor pass, the advantages and problems of the new program, and any other relevant material.

A showing of any worthwhile film such as "The Ferris Story" in a large group meeting or assembly would be valuable. A few key students, such as student body officers, should be included on visitations.

It is important to make the students feel that their ideas and opinions have value and will be considered. A student opinion survey should be conducted after the program is underway. The student government officers and board of control should help set up some details of implementation, such as requirements for an honor pass or rules for the student lounge or independent study areas.

Articles in the school paper can provide another means of involving pupils with the program. Detailed explanations of the program in the student handbook will be of particular help to new students.

After change has been initiated, the best means of full student involvement in the new program is to allow visitations from the feeder school to the program in progress.

This takes time and organization, but it gives the incoming students the feel of the program and the opportunity to discuss with other students the mysteries of a modular schedule. If this is not possible, a group of students and faculty could visit the feeder school and give a short presentation to their student body; this could be followed by a question and answer period. Slides, films, or tapes may be used to supplement the presentation.

When students are involved with the program, they understand it. When they understand it, they tend to become committed more readily. This commitment makes for a much smoother transition from a traditional to a modular program than could be expected without student involvement.

Non-Certified Personnel

Non-certified personnel hired to assist the teaching staff should receive an orientation to modular scheduling. The principal or assistant principal should provide time before the school year begins to outline to them the rationale behind the new program and exactly how they fit into it. They should thoroughly understand the procedures teachers and students will follow, particularly in regard to the use of facilities and resource centers. It is advisable that lay-aids have one staff member available to them whom they can seek out when questions arise.

II. EVALUATION

A long-range program of evaluation must be established. Evaluation criteria should be based upon the expected goals of behavior and learning on the part of the students. All of the staff should be involved in establishing these objectives. The following specific resources are recommended for the administration and staff setting up objectives for program change:

1. Preparing Instructional Objectives--Robert F. Mager.
2. Taxonomy of Educational Objectives--Benjamin S. Bloom
3. Classroom Questions--Norris M. Sanders
4. "Images of the Future," "New Horizons in Staff Utilization," "New Directions to Quality Education"--J. Lloyd Trump
5. "Focus on Change"--National Association of Secondary School Principals
6. "Systematic Instructional Decision Making"--Vincet Associates, 1967
7. A New Design for High School Education--Robert N. Bush, Dwight W. Allen

A film strip and record accompany this latter and are available from Publication-Sales Section N.E.A. for a five dollar rental fee. Systematic Instructional Decision Making is a kit containing pamphlets and accompanying film strips and tapes available from Vincet Associates, P.O. Box 24714, Los Angeles, California. Recommended films are: "And No Bells Ring," available at no cost from the NASSP, and

"The Ferris Story," and "Make a Mighty Reach," available for a small rental fee from most film libraries in the state.

Information about actual experience is helpful, and two books are recommended by schools which have spent some time under the modular plan. The experiences of Claremont High School in Claremont, California are related in Wiley and Bishop's book, The Flexibly Scheduled High School. Decatur--Lakeview High School by David W. Beggs offers further valuable information.

III. ADAPTATION TO PRESENT FACILITIES

Because modular scheduling encompasses the idea of large group instruction, seminars, and independent study, it requires space modification as well as time manipulation. In most schools large group lectures can be held in existing auditoriums, or, in some cases, cafeterias or cafetoriums. Ideally, the large group lecture room should hold approximately the number of students in a section, without an excess of empty seats. This points out the disadvantage of an auditorium which will seat 1000 and has a large group of 150. To meet the need, the auditoriums have had to be utilized until a district can build special facilities. The cafeteria or cafetorium, on the other hand, does not lend itself to the formality of a large group lecture. Seating on a raked or sloped angle improves audio-visual reception for both student and lecturer.

Seminars work best in the intimacy of individual rooms for each group. However, existing classrooms can be converted into two, or sometimes three areas by the use of curtains, screens, or folding doors. Less ideal, but often satisfactory, is simply the rearranging of furniture into two or more groupings for seminars.

Independent study demands quiet study areas, preferably well equipped with resource materials. The school library only partially fulfills this need. Smaller, more specialized areas, at several locations are vital to the success of this facet of the program. Resource centers can be built and equipped if the district has ample funds available. Portable classrooms or trailers can serve well. Unused classrooms also provide a suitable resource center for independent study. Two or more disciplines can be accommodated when furniture is grouped and high book dollies are used to break up the classroom. Special desks are available with tops that raise and convert into study carrells. A partition in the last twenty per cent of any room quickly creates a small area for student use. Satellite resource centers within an existing library can be made by the use of partitioning.

Two points should be emphasized: (1) Resource centers are of only minimal value when they are not equipped with adequate study supplies, such as literature and audio-visual

equipment; (2) Resource centers staffed with lay personnel are the most valuable.

Team teaching means not only providing time in the schedule for team preparation, but it also implies special equipment, teacher aids, and space.

Special equipment for team preparation includes an overhead projector, duplicating machines and materials for the projector, a tape recorder for recording large group lectures, and, of course, resource materials. Teacher aids must be part of the philosophy of team teaching. Teachers need help in preparing study guides, syllabuses, work sheets, and tests. One facility teachers need is office space. Separate offices are ideal, but the sharing of offices by team members is widely practiced and seems satisfactory. Teachers need these offices not only for team preparing, but also for conferring with students during unscheduled modules. The teacher office is a place where a student may go to seek help from individual teachers or from members of a team. These offices need be only large enough for a desk, a file cabinet, a wardrobe, and a bookcase. Many schools have combined teacher offices and seminar rooms or teacher offices and resource centers. These combinations place the teachers near the students and provide easier student access to teacher conference situations.

IV. MODES OF INSTRUCTION

After the preparation of staff and the provision for facilities, the administrator must make decisions about the modes of instruction. He must decide on the specific procedures to be followed for each mode, and he needs to develop, along with his staff of administrators and teachers, measurable behaviorable objectives based on the rationale of the program. Evaluative criteria need to be established in order to determine if the program objectives have been met. These criteria and the ensuing evaluation will give further insight into any necessary program change. The following recommendations are suggested to aid the administrator in reaching these ends:

The Large Group

Procedures.

1. Maximum of two per week, except for occasional, extended films, guest lecturers, or demonstrations
2. Approximately thirty minutes per session
3. Taped and filed in the library for later reference by students
4. Formalized with students required to take notes. No question-answer period
5. All team members present
6. Principal present at occasional lectures and later meeting with team to evaluate

7. Student involvement (e.g. skits, reports, panels, debates, socio-drama)

8. Methods of presentations varied (i.e. lectures alternated with films and other types of presentations)

Objectives.

1. To transmit new concepts and information

2. To introduce and create interest in new units

3. To provide students with the experience of a formal, large group lecture situation of the type many of them will face in college or other learning situations after high school.

4. To provide students with the opportunity to learn to listen accurately and discriminatingly

5. To relieve the teaching staff of the repetition of identical lectures

6. To buy time for the more intimate student-teacher relationships offered by seminars and independent study.

Evaluation.

1. Testing

2. The checking of notes taken in large group by the medium group teacher

3. Evaluation of responses in seminar discussions

4. Student opinion survey

5. Evaluation sessions of team members and the principal

6. Teachers' listening to the tapes of their lectures

Seminars

Procedures.

1. Meet often, three or four times per week if possible

2. Thirty minute to sixty minute duration

3. Enrollment of not over 15 students

4. Teacher directed initially--then the teacher as a resource person

5. Discussion guides distributed well in advance of seminar meetings

6. Students given great freedom in expressing themselves, but constantly guided to make statements relevant to the discussion

Objectives.

1. Clarify information and concepts presented in large group as well as resolve misconceptions

2. Give students opportunity for interaction with peers--(i.e. learn to both express themselves freely and maturely, and listen to others with an open mind)

3. Give students opportunity to assume the role of discussion leaders

4. To permit students to pursue their particular interests related to the general study area. (i.e. local race problem as related to a unit on contemporary problems)

Evaluation.

1. Seminar teacher must subjectively evaluate the response of the groups and the individuals within them

2. Some opportunity for unit testing

3. Student opinion survey

Medium Groups

Procedures.

1. Meet once per week for 45 minutes

2. Task oriented--development of skills

Objectives.

1. Develop skills such as reading, speaking, writing, map-reading, creative skills, physical skills, technical skills, interpretive skills. (discipline dictates skills to be achieved)

2. Provide classroom environment where teacher is immediately available for aid and information

Evaluation.

1. Testing (performance tests)

2. Teacher's subjective evaluation of observable performance of tasks

3. Student opinion survey

Independent Study

Procedures.

1. Expansion and extension of regular assignments

2. Determine amount of study time based on grade level and performance

3. Structure independent study time at beginning (i.e. students have specific, detailed assignments to fulfill during their independent study time. Later they should be allowed more latitude in precisely what work they will pursue during this time. See Appendix C.)

Evaluation.

1. Assess subjectively the response of students
2. College performance
3. Student conduct
4. Quality of assignments returned by students
5. Student opinion survey

V. SPECIAL PROVISIONS

Honor Pass and Study Hall

It is suggested that a system of relieving students of study hall classes be initiated during the first year of modular scheduling. Students must be free to move about the campus in order for independent study to take place. Honor passes should be issued to all eleventh and twelfth grade students without regard to previous conduct or academic standing. Sophomores and freshmen should apply for honor passes by gaining the signatures of their parents and all their teachers who will attest to their reliability and application to studies. Transfer students will be treated the same as regular students. Infractions of the honor pass code should result in immediate loss of honor pass privileges by all students for a period of time in relation to the offense. Privileges and responsibilities should be well understood by all students before they receive a pass.

Study halls will be greatly reduced by the use of this system. They should be retained, however, to accommodate those students who lose their passes or who are too immature to gain an honor pass. Study halls should be staffed by non-certified personnel. Eventual phasing out of study halls and the transfer to an open campus is recommended.

Assemblies

Three methods are suggested for assemblies. The most

ideal is to arrange the school day so that assemblies and other student activities can be held following the final class. The obvious advantage to this method is that classes are not interrupted. A second technique is to schedule assemblies during large group lecture times so that only one class is disturbed with each assembly. Finally, the scheduling within the master schedule of a period of time during the week for assembly schedule may be desirable.

Student Lounge

Schools with innovative programs have found that a student lounge is a valuable morale builder to students learning under a modular schedule. It suggests to them that the faculty has confidence in their ability to operate in a mature way while unsupervised. Whether the student lounge is a new facility or one created from existing facilities, it should be policed and maintained by the students.

VI. GENERATING THE PROGRAM

After preparation and involvement by all members of the school community, the decision to have a computer generated modular schedule must be carried out. The available programs for the Northwest are GASP and 4-S. Either program will accomplish the same objectives. Educational coordinates should be contacted in Palo Alto, California for 4-S and the Washington State Department of Education for GASP.

Input information for the computer is recorded on special forms and then punched on IBM cards which are processed through the computer. This information includes students, instructors, rooms, and classes. Time patterns are the selection by the school of all acceptable combinations of frequency and duration for all classes during each day and week. For example, if three module lectures twice per week are going to be requested for any class, these and all other acceptable time patterns must be in the computer's file of information.

Student information includes student name, grade level, track if used, and his requests for classes. Instructor information lists the subjects he can teach and the maximum number of sections of a class he may teach (e.g. three sections of English).

Rooms are another resource for the computer program and are listed by name and number. Classes are entered by

name and number and include the maximum student load, number of instructors desired for teaching situations, and the desired time preferred for meeting. In most cases the selection is best left to the computer for class times as this gives the computer more flexibility, but in some cases a large group lecture or a laboratory time could be reserved by the scheduler for a special reason. Classes may also be phase sequenced so that seminars and medium groups are spaced evenly throughout the week with the large groups. A so called threading rule may also be requested so that students in a given seminar will also be in the same medium group. Team preparation time for team members is created by treating the common preparation time as a class then scheduling the instructors into that "class."

The technicalities involved in computer scheduling demand that the district provide the opportunity for its administrative personnel to become trained in the use of the computer--this includes special courses and summer workshops related to data processing and computer scheduling.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

I. SUMMARY

The rationale of modular scheduling is supported by the premises that (1) traditional use of staff and student time and school facilities have handicapped the educational process; (2) not all subjects lend themselves to the perimeters of the Carnegie Unit; (3) a system of time variation in organizing a master schedule can afford definite benefits as it provides the potential to develop appropriate learning activities for each student.

It is hoped that the experiences of the five Northwest schools experimenting with the GASP and 4-S programs will serve as guidelines for other school districts with the courage to attempt schedule innovation.

II. RECOMMENDATIONS

It is recommended that additional research be done in the field of modular scheduling. Available literature does not provide the administrator with a wide enough range of experiences, sample programs, or evaluations to be of significant practical help. More research is also necessary to attempt a definition of the role of the secondary school principal in light of the increased demands on his time and energy forced by schedule innovation.

It is urged that very soon in planning the administrator stress the necessity for a change in thinking about the traditional roles of the teacher, student, and administrator in a district that is anticipating change.

A commitment is necessary from the community to support a district's long range goals for improving education. Funds must be available for visitations, substitutes, guest speakers, teacher aids, resource material, furniture, and added facilities.

The writer believes that communications on all levels must be improved. It is highly recommended that administrators strive to keep lines of communication open between themselves and other administrators as well as between themselves and their staffs. Further, administrators should determine that group process (the process of improving communicative skills within a group) should be practiced by the staff to facilitate a smoother transition from the "traditional" to the innovative program.

Communications should also be improved between school districts within a state. The State Department of Education should strive to keep all schools informed of actual or proposed program changes. They should also host statewide workshops where innovative schools can share their successes and failures with interested schools.

Finally, it is recommended that superintendents have the courage to experiment for the sake of improving the

quality of education in a district. Superintendents should record setbacks or failures as well as apparent successes; these experiences may help another school to avoid mistakes and yet be encouraged to improve the excellence of their secondary program.

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APPENDIXES

APPENDIX A

BASIC INFORMATION ABOUT THE FIVE SCHOOLS

SCHOOL VISITED	BEND	FERRIS	GLENDALE	MORGAN	SELAH
SCHOOL NAME	BEND HIGH SCHOOL	FERRIS HIGH SCHOOL	GLENDALE JR. HIGH SCHOOL	MORGAN JR. HIGH SCHOOL	SELAH HIGH SCHOOL
LOCATION	BEND, OREGON	SPOKANE, WASHING-TON	BURIEN, WASHING-TON	ELLENS-BURG, WASH.	SELAH, WASHING-TON
DISTRICT CLASSI-FICATION	FIRST	FIRST	FIRST	FIRST	SECOND
GRADE PLAN	10, 11, 12	9, 10, 11, 12	6, 7, 8	6, 7, 8	9, 10, 11, 12
ENROLLMENT	1121	1950	623	739	640
SCHOOL DAY	8:45-3:40	8:00-2:30	8:22-3:00	8:30-3:28	8:30-3:30
TYPE OF SCHEDULE	Modular (15 min.)	Modular (15 min.)	Modular (15 min.)	Modular (16 min.)	Modular (15 min.)
COMPUTER PROGRAM	SSSS	GASP	GASP	SSSS	GASP

APPENDIX B

INTERVIEW DOCUMENT

BASIC INFORMATION

1. School name
2. Location
3. District Classification
4. Plan (7,8,9, etc.)
5. Current enrollment
6. School day (from ____ to ____)
7. Type of schedule and length of mod. (name or brief description)

INITIATING THE PROGRAM

1. Identification of the need for change
2. Community preparation
3. Staff preparation
4. Student preparation

ROLE OF THE ADMINISTRATION

1. The Superintendent
2. The Principal
3. The Assistant Principal

1. Team teaching

   a. Do you have a maximum number of teachers on a team?
   b. If yes, How many?
   c. Do you have team leaders?
   d. If yes, How are they chosen?
   e. Paid more?
   f. Do you team teach in all areas? If No, please specify.
   g. Your concept of the major purpose of team teaching:

2. Large group

   a. Maximum number you strive for in large group lecture
   b. Duration of large group lecture
   c. Frequency of large group (weekly cycle)
   d. Your concept of the major purpose of the large group:

3. The seminar

   a. Maximum length by mods
   b. Frequency
   c. Maximum student load
   d. Your concept of the major purpose of the seminar:

4. The Lab or medium group

   a. Maximum student load
   b. Frequency
   c. Maximum length
   d. Your concept of the major purpose of the medium group:

5. Independent study

   a. What per cent of your students' time is scheduled into independent study?
   b. If the per cent varies by grade, please break down: 7, 8, 9, 10, 11, 12

6. Resource centers

   a. List your resource centers other than the library:
   b. What resources other than books are located in these centers?

7. The honor pass
   a. Please explain your honor pass system

8. Open campus
   a. If you have open campus, please explain
   b. If you have provision for early dismissal or late arrival, please explain

9. Student areas

   a. Do you have an area designated as a lounge or center for students?
   b. Is it restricted to any one group?
   c. What facilities are provided for the students?

10. Convocation or assembly schedule

   a. When are your activities scheduled?
   b. What provision is made for national assemblies or other all-student assemblies?

SCHEDULE GENERATION

1. Who on your staff gathered the information for the input data?

2. Which program did you choose and why? (SSSS or GASP)

3. What was the approximate cost per pupil for generating your schedule?

4. Who paid for your schedule generation?

5. How many staff hours were necessary to complete your schedule?

6. Who and on what basis was the module length determined?

7. What changes do you anticipate for the coming year concerning your schedule?

EVALUATION

1. How do you measure the quality of education at your school?

2. What types of tests or measurements have you administered?

3. Do you have a program of continued evaluation of your modular program?

APPENDIX C

INDEPENDENT STUDY

WHAT IS INDEPENDENT STUDY?

Basically, independent study involves the pursuing and acquisition of knowledge and skills by students with limited assistance from their classroom teachers.

WHY INDEPENDENT STUDY?

SELF-DIRECTION is one of the most important objectives of education. We would hope that by the time a student graduates from senior high school, he would have developed a high sense of self-direction and motivation.

PHASES OF INDEPENDENT STUDY

Phase One (The lesson for tomorrow)

Teacher initiated.
Typical homework assignment.
Individualized to fit the needs of each student.

Phase Two (The self-instructional package)

Teacher initiated but wider in scope than phase one.
Teacher plans a series of learning options for the class.
(Example: Read a chapter in a book, view a film strip, listen to a tape, view an 8MM single concept loop film, examine an artifact, look at a map, watch a television presentation via VTR, etc.)

Phase Three (The project)

Teacher initiated but completely open-ended.
Student has a wide choice and can develop his project as a requirement or as enrichment.
After project has been selected, student studies a wide variety of instructional media and develops project.
Usually ends with presentation to class.

Phase Four (Individualized Research)

This is the highest level of independent study.
Student initiated and a subject in which the student is highly interested and motivated.
Teacher serves mainly as an educational guide.
Could be short term (week) or long term (entire school year).
Will often lead the student to sources outside of the school itself.

This outline prepared by Robert A. Kellman, Selah School District Number 119, from an address delivered by Dr. Donald W. Empey, Director of Instructional Services, Arcadia Unified School District, Arcadia, California.