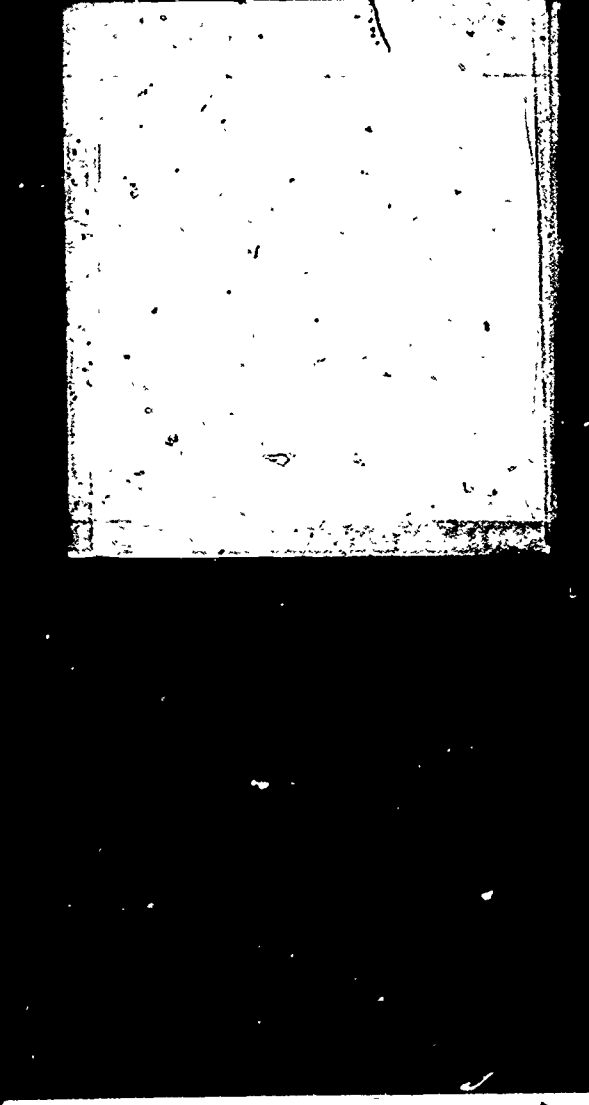

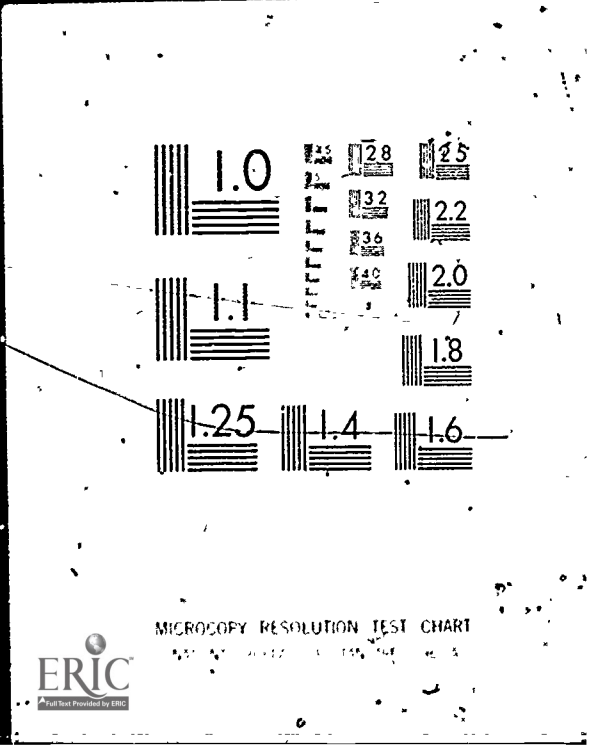

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ABSTRACT

This paper consists of six short articles concerned with different facets of student articulation programs and a brief background description of Syracuse University's Project Advance, an experimental effort to improve program articulation between the senior year of high school and the freshman year of college. The articles, which were prepared by staff members of Project Advance for a seminar on articulation analysis, include "A Review of Literature Related to Secondary/Post-Secondary Articulation: Cooperative Programs and Practices Linking Secondary and Post-Secondary Curriculum"; "An Investigation of Student Articulation Programs: A Design for a Study"; "Dissemination and Implementation of Project Advance: Factors Affecting Adoption"; "Two Issues in the Evaluation of Student Articulation Programs"; "The Evaluation of Project Advance: Theory and Practice"; and "Report of Grades: Distribution, Assignment, and Variance." (JG)

AN ANALYSIS OF ARTICULATION PROGRAMS

A Supplementary Paper to the Session

Articulation Analysis: Secondary Schools and College Curriculum

Glens Falls, New York,

by

Robert E. Holloway
David Chapman
Franklin Wilbur
Anne Hubbard

October 2-4, 1974

Project Advance
Center for Instructional Development

Since the purpose of the seminar sessions is to provide a forum for the exchange of experiences, observations, and opinions, those of us on the Project staff were caught between our obligation to the seminar session and our desire to communicate some of the background information we have collected over the last two years. While this paper may be a rather prosaic method of resolving our conflict, it seemed our most reasonable alternative. The individual sections within the paper are intended to be self explanatory. The table of contents may be used to identify sections which may be read without reference to other background information. We would, of course, appreciate your comments and suggestions as we attempt to define the framework within which we are working.

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TABLE OF CONTENTS

AN ANALYSIS OF ARTICULATION PROGRAMS

Syracuse University Project Advance

Syracuse University News Bureau

A REVIEW OF LITERATURE RELATED TO SECONDARY-POST-SECONDARY ARTICULATION: COOPERATIVE PROGRAMS AND PRACTICES LINKING SECONDARY AND POST-SECONDARY CURRICULUM*

"Articulation"

The term articulation is used in a variety of ways, and its use in this report should be clarified. In its most general sense, articulation is often used to mean "the smooth transition of students from one educational level to another" (Kintzer, 1970; Willingham, 1972). Implicit in this concept is the need to systematize the activities influencing all aspects of student progress and movement. Still others have used the term to signify "the coordination of educational programs" (Blocker, 1966), "the process and procedures by which coordination is achieved" (Kintzer, 1970, 1971), and "the coordination of a variety of educational practices and services" (Knoell and Medsker, 1965). In this report, articulation is used to refer to "planned programs and practices which link secondary and post-secondary curricula and involve a high degree of systematic cooperation between the two levels."

Background

In the past, there has been little incentive for schools and colleges to work together. High schools and colleges have developed as separate, self-contained components of the larger educational system (Pincus, 1974). Even community colleges which were originally, in many cases, connected to secondary schools have sought to separate themselves from such ties in their quest for recognition (Gleazer, 1973).

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Particularly from the post-World War Two period until the mid-1960's, there was a significant lack of linkage between the two levels. The competition by high schools to place their students in a limited number of college openings served to strengthen the high school curriculum. As one outcome, many entering college students found themselves duplicating academic work already taught in high school. They also discovered that much of the teaching at the college level was handled by graduate students who often compared badly with their high school teachers. During this period of anxiety and activity by the high schools and the students, the colleges were frequently complacent and aloof (Carnegie, 1973; Spurr, 1970).

Declining college enrollments, increased cost, and the proliferation of a variety of new post-secondary options are among the forces that are helping to produce new climates of cooperation between secondary and post-secondary institutions (Carnegie Commission, 1973; Commission on Non-Traditional Studies, Gould, Chairman, 1973). Community college officials suggest that the most significant linkages in the next ten years for their institutions will be the secondary, vocational, and community schools from which they draw their students (Gleazer, 1973). In addition, colleges are beginning to re-think seriously many aspects of their curriculum practices in light of the changing student population.

Rationale & Impetus for Articulation

The investigation and planning of new kinds of opportunities for students to make sensible, effective, and timely transitions from secondary to post-secondary education have been important issues for educational planners in recent years (Carnegie Commission, 1973; Honey, 1973; Rainsford, 1972). Among the factors noted by Magill (1973) that contribute to this concern are that students are more physiologically, intellectually, and academically advanced than were

students a generation ago and that entering college freshmen are particularly well advanced in the field of general education. In addition, many educators now acknowledge that much learning takes place outside the classroom which can be evaluated for academic credit (Angell and Bailey, 1974).

A great deal of evidence suggests that considerable curriculum duplication exists, particularly between the last two years of high school and the first two years of college. Osborn (1928), showed that 17-23% of high school physics, English, and history repeated in college. Russell (1940) found that, on the average, a B.A. major in English will have studied Shakespeare's Julius Caesar four times during his total school program. More recently, Blanchard (1971) conducted an extensive survey of college and high school curriculum practices and found that nearly one-third of the subject-matter content during the first two years of college is merely a repetition of what has already been taught in high school. That is, one-third of the content of the four areas of college curriculum (English, science, social studies, and math) may be nothing more than "high school courses rearranged into a college course and then offered under a new name, but unmistakably continuing as high school substance" (Blanchard, 1971, p. 17). Although Blanchard and many others recognize that some repetition of subject matter may be desirable, such duplication should have a specific purpose. Until better communications channels develop such that high schools and colleges can develop some consensus on curriculum planning, such ill-conceived duplication is likely to continue

New instructional roles may be emerging for secondary schools. Although certainly an unsettled issue, more educators are beginning to feel that high schools can start to assume more of the responsibility for general education courses that currently make up a major portion of a student's first two years

of college. Crowley (1960) cites lack of interest among a substantial portion of college faculty in this area of teaching, the dominant status of the research function, and the frequent emphasis on special rather than general education as reasons favoring such a shift. De Vane (1964) reported that moving more of the responsibility of developing basic competencies in English composition and foreign languages to the high schools would probably benefit higher education.

Other forces promoting better articulation are those which focus on the economic aspects of inadequate coordination between school and college. Nelson (1972), at a recent meeting of the Upper Midwest Association for College Registrars and Admissions Officers, notes that legislators are becoming increasingly concerned about the rising costs of education and are not happy about any waste or slippage. With new forms of higher education gaining recognition (e.g., University Without Walls, private occupational and business schools, home study, the external degree), colleges, if they are to survive, must find ways of better serving the large number of students who are selecting these options more and more (Nelson, 1972; "Inside Education", June, 1974). Using 1965-66 figures, Blanchard (1971) calculates that, because of the extent of overlapping subject material, nearly 3 million freshmen and sophomores enrolled in public and private institutions of higher education are paying tuition and required fees of over $420 million dollars for course content which their parents have already reimbursed the state for during their child's secondary education.

Many high schools have allowed, indeed actively encouraged, academically capable students to take heavy course schedules throughout their first three years. As a result, high school students often complete requirements for graduation as juniors or find themselves with only one or two required subjects in their senior year.

Even given the seemingly exciting prospect of early graduation or light senior year course loads, a number of problems have emerged. Bowen (1973) notes that the 30-year-old practice of early graduation from high school and early admission to college may be desirable for some students but doesn't work for all who qualify and may have a bad effect on secondary schools. Relatedly, parents often want their children to remain in school in the local community for the full four years and want the schools to "beef-up" the senior year. Teachers complain that it is difficult to motivate juniors and seniors after they have been accepted to college. Administrators are not happy about losing many of their better students, a loss which directly affects state and federal aid and which may reduce teaching positions. Students often look forward to the extracurricular activities of the senior year which are lost with the early graduation option. It is becoming increasingly evident that high schools and colleges can no longer stand worlds apart in educational planning and that the ineffective coordination and transition between secondary and post-secondary education will have to be dealt with imaginatively.

Models of Articulation

As noted earlier, articulation as used in this paper refers to "cooperative programs and practices linking secondary and post-secondary curriculum." Other categories of school-college articulation, such as sharing of facilities and services, joint advisory programs, student counseling, and tutorial arrangements also represent important joint ventures (Buder, 1974; Carnegie Commission, 1973; Gleazer, 1973). Because of the recent forces previously discussed, direct aid, and guidance from commissions, foundations, (Carnegie, 1972; Carnegie, 1973; Fleischman, 1972) and state education departments (e.g., Oregon, New York, Florida), high schools and colleges have begun to experiment more boldly with

The cooperative design and delivery of many kinds of educational activities and services.

A recent survey of articulation programs (Wilbur, 19[illegible]) has revealed imaginative new approaches as well as more effective and extensive use of options that have been available for some time. This investigation and a review of the literature suggest that these programs can be organized within the conceptual scheme indicated in Figure 1.

Teaching Responsibility	COURSE DESIGN: Regular Catalog	Special Design
College Faculty	A	B
High School Faculty	C	D

Figure 1: Four General Models of School-College Articulation Practices

Programs in all four cells generally have at least two characteristics in common:

1. Recognition that some high school students are capable of achieving in college courses.
2. Certain high school students can and should be allowed to earn college credit or eligibility for advanced placement by participating in cooperative school-college programing.

Cell A of the matrix includes programs whose design involves regular college catalog courses being taught by college faculty to non-matriculating high school students. Perhaps the most common type of cooperative program, this design creates opportunities for high school students to take college courses, either

in their high school or at a nearby campus, for college credit while still enrolled in high school. Often referred to as a "split-day" arrangement (Brener, 1968), this cooperative programing allows academically able students to interact with college professors, experience college level course requirements, and earn credit applicable toward both high school graduation and baccalaureate degrees (See Appendix A for case examples of articulation practices that fall within all four areas of the classification system).

The second category of program design includes programs that would be classified under Cell B. College faculty, often in conjunction with high school representatives, design special programs of study for advanced high school students. Faculty from the college, as indicated on the matrix, are responsible for classroom instruction. Among such programs are special colleges which give high school students the option of completing requirements for graduation and, at the same time, completing many of their intitial college courses. Other programs are designed to operate at the high school as part of a student's elective program.

Programs falling in Cells C and D are particularly interesting because of one basic underlying assumption: At the same time colleges are recognizing the ability of high school students to complete college work successfully, they are also recognizing the capability of the high school teacher to present college level learning experiences (Lindsay, 1965). The basic premise seems to be important in accounting for many of the differences in program design. Bremer (1963) writes that articulation programs that are not "high school-focused" deny that the high school has the ability to present a college level course. The result, he observes, is that the college rather than the high school, becomes the focal point of acceleration and assumes the instruction-evaluation role.

Secondary schools, therefore, serve merely to identify students who they feel are capable of participation.

Type C programs are, by far, the least common of the four categories of articulation practices. Several colleges, including Syracuse University, have programs operating which give high school students an opportunity to earn college credit for courses taught by their high school teachers. Specially selected high school faculty are trained by college faculty to offer the program. Usually, courses carry credit which is applicable toward high school graduation requirements and is transferable to post-secondary institutions for credit or advanced placement toward degree requirements. Since existing high school faculty and facilities are used for programs falling into this area, tuition can be kept remarkably low (e.g., 25% or less of on-campus cost).

A number of other programs are included in the fourth area, Cell D. Once again, high school faculty are responsible for teaching college level courses. Standardized testing programs (e.g., College Level Examination Program, Advanced Placement) often involve specially designed courses of study that result in norm-referenced scores or ratings which increasing numbers of post-secondary institutions are granting course exemption, both with and without college credit (College Entrance Examination Board, 1974 A). Other cooperative experiments involve high school and college faculty designing courses that are also taught by the high school faculty and carry college credit.

Although slowly increasing in number and variety, such programs and opportunities are still inadequate and are largely the result of local initiative rather than systematic educational planning at the state or national level (See Appendix A: Case examples of current articulation programs; Appendix B: Preliminary compendium of post-secondary institutions sponsoring articulation

programs). Several exceptions, however, deserve attention. A New York State study commission has recommended a major reorganization of secondary education that would give students at least three options for grades 11 and 12: continued high school, early college entrance, or vocational training (Fleishman, 1972). Ewald B. Nyquist, President of the University of the State of New York and Commissioner of Education, has invited the higher education community of New York to experiment more boldly with the delivery of educational services. Nyquist leads a current study, sponsored by the National Academy of Education, which is investigating existing and proposed articulation programs in the state in order to develop a compendium of practices and policy recommendations for the state. Regional conferences of educators and publications are planned to disseminate the information. The State of Oregon has developed specific guidelines which secondary and post-secondary institutions can use to facilitate the transfer among institutions of credit earned in cooperative high school-college programs (Oregon High School-College Relation Council, 1973). Florida and California have also taken steps to make systematic articulation an important issue and educational priority.

Important Issues and Problems

Inherent in most of the cooperative efforts previously described is the recognition that high schools and colleges must begin to work more closely together to eliminate needless curriculum duplication between the two levels and provide in other ways for a more effective continuum. "Articulation", as Kintzer (1970, p. 2) points out, "can also be described as an attitude--the reactions of personnel responsible for student progress through an educational system and from one system to another." Cooperation and commitment will be needed to resolve a number of deep-seated problems and barriers to effective articulation.

1. Economic. Many problems interfering with successful articulation practices are economically based and affect both institutions sponsoring the programs and those receiving the students. Certain designs, for example, require college faculty to teach courses in the high school. Concerns by high school teachers related to job security often occur. Magill (1973) warns that articulation programs that result in shortening the time required for a college degree by one or more semesters could have potential fiscal perils, particularly in the private sector. As credit and time requirements are reduced, colleges may have difficulty compensating for the subsequent reduction in enrollment. Still another consideration is that courses most likely to be reduced through articulation practices (i.e., large enrollment, general education programs) cost the institution less money than do upper division and graduate courses (Dresser and Chapman, 1972; N.Y. State Education Department, 1972). Furniss and Martin (1973) point out that the problem is not so much the transfer of students or credit but rather practicing sound fiscal policy. If the acceptance of transfer credit helps an institution in some way to "balance the books", then students with such experiences will be sought. If not, they will be avoided.

2. Institutional and Faculty Autonomy. Nelson (1972) identifies other restraining forces interfering with improvement of articulation. "For openers, we might consider institutional integrity--you know, that feeling that you'll be damned if you're going to have another institution dictating who you'll admit and on what terms, p. 10." He cites that a similar reason often expressed by faculty members is that they view some of the thrusts of articulation as encroachments on their academic perogative to decide what to teach and how to teach it. Students who complete several general education courses, for example,

prior to college admission and expect course exemptions with credit, may serve to pre-empt faculty decisions on degree requirements and student standing at their institution. Oregon, Florida, and other states have recently found it necessary to issue legislative guidelines to public institutions related to credit transfer and other aspects of articulation within the states.

3. Credit Transfer. High school students participating in articulation programs present colleges with a relatively new problem: what to do with students who earned college credit prior to high school graduation. Lloyd Elliott (1973), President of George Washington University feels that transfer of credit must be made much easier for students than has been the case among traditional institutions of higher learning. Colleges, he adds, "...must take into full account the needs, interests, and circumstances of the students and put those matters above the convenience of the institution (p. 7)."

Currently, a great deal of variance exists among institutions as to their policies regarding transfer. What may be treated as acceptable for course exemption and credit toward graduation at one institution may be flatly rejected for consideration at another institution. Many studies have shown the large numbers of variables involved and practices that currently occur (Gleazer, 1973; Creager, 1973; Snieder, in progress). Among those barriers to transfer mentioned in a recent article by Furniss and Martin (1973) which may directly affect the recognition of credit earned in articulation programs are lack of standardization of grading systems, lack of agreement on core curricula, lack of coordination between admissions office and departmental requirements, and lack of agreement on credits from accredited and non-accredited institutions. Factors such as the student's choice of major, his persistence in finding ways through and around

the institutional system, and the college's current recruitment needs can all affect credit transfer. The frequent lack of simplicity, flexibility and consistency of transfer policies and practices makes it extremely difficult for those planning, operating, and participating in articulation programs.

Obviously, guidance and cooperation from state and federal offices, accreditation and testing agencies, professional associations, as well as top level commitment within and among institutions will be needed to begin to solve these and other problems interfering with the establishment of better articulation practices. For the present, the spotlight will continue to fall on programs resulting from local initiatives between secondary and post-secondary institutions.

Appendix A: Case Examples of Current Articulation Programs

Type A

The State University of New York at Fredonia has developed a cooperative arrangement with 14 local school districts whereby qualified high school seniors can enroll in regular freshman courses at the Fredonia campus while they continue to take courses at their high schools. If they can successfully split their days between the two locations, students have the opportunity to earn 9 or more college credits while completing the requirements for high school graduation. Fredonia also recognizes some work completed in high school for college credit and, therefore, has some of the characteristics of a Type C program.

Another example with this category would be the cooperative program between Chaminade High School and C.W. Post College, a branch of Long Island University. High school students who meet Post's admissions criteria can earn both a high school diploma and 30 freshman credits during their senior year at high school. Courses are taught at Chaminade, a private high school, by faculty of C.W. Post. Students take a full load of regular Post freshman courses, not a mix of college and high school courses. By remaining in the high school setting, students can continue to participate in extracurricular activities, retain social contacts, and receive guidance counseling and placement services.

Type B

A grant from the Carnegie Corporation assisted the State University of New York at Albany in opening the James E. Allen Collegiate Center on the Albany campus. The Allen Center accepts qualified high school students at the end of their junior year into a full-time college schedule. Designed to absorb 12th-grade

course work by eliminating overlap, students study philosophy, history, and the visual and written arts in an integrated, interdisciplinary curriculum. Faculty from the University design and jointly teach the course offerings. With agreement from each student's high school, students complete any remaining requirements for high school graduation while finishing a full freshman course load. Tuition, fees, and living expenses are the same for the Allen Center students as for other State University of New York at Albany degree candidates.

A project slated to begin in September 1974 is LaGuardia Community College's (Queens, New York) "Middle College High School." Designed as an alternative to high school, the program will initially enroll 125 tenth graders who have academic potential but are not achieving. LaGuardia faculty members will provide the students with increased remedial attention, counseling, and individualized curriculum alternatives. After five years in the program, participants will be eligible for associate degrees, career skills, and options to transfer to a four-year college.

Type C

(Refer to the descriptions of the design and operation of Syracuse University's Project Advance in other sections of this report.)

Type D

The State University of New York at Plattsburg, Hudson Valley Community College and Shaker High School in the North Colonie School District have cooperatively designed a program to give qualified high school seniors the opportunity to earn up to 24 credit hours of college work. Faculty members from the three institutions have designed the curriculum and evaluation methodology. Special

seminars prepare Shaker High faculty who teach the courses at the high school. Tuition is free and credit transfer is limited to the two participating colleges.

The Advanced Placement Program, sponsored by the College Entrance Examination Board, enables high schools to offer specially designed college-level curriculum in a number of subject areas. Colleges participating in the program grant students credit toward their degrees, exemption from required courses, or placement in advanced courses depending on their performance in the Advanced Placement Program to be direct replacements for specific college courses. The acceleration of the student's progress towards his educational and career objectives is an important goal of the program. Content and evaluative instruments for each A.P. course are planned by a group of content specialists representing both secondary and post-secondary institutions. High school teachers are responsible for teaching a recommended course of study in the high school. Dual credit (high school and college) is often awarded to program participants. Only the top 5-10% of the student body (in terms of academic achievement) usually enroll and take the examination. Cost of the examinations is approximately $30 each.

Appendix B: Preliminary Compendium of post-secondary institutions sponsoring articulation programs.

Institution	State
Appalachian State University	North Carolina
Bellarmine College	Kentucky
Chapman College	California
C.W. Post	New York
Dickinson College	Pennsylvania
East Texas State University	Texas
Empire State College	New York
Florida Technical University	Florida
Fullerton Junior College	California
Hudson Valley Community College	New York
Huntington College	Alabama
LaGuardia Community College	New York
LaGrange College	Georgia
Marist College	New York
Mercy College	New York
Messiah College	Pennsylvania
Midland College	Texas
Moorhead State College	Minnesota
Navarro Junior College	Texas
New York University	New York
Northampton County Area Community College	Pennsylvania

Appendix B (cont'd)

Institution	State
Old Dominion College	Virginia
Regis College	Colorado
Riverside City College	New York
Saginaw Valley College	Michigan
Saint John Fisher College	New York
Saint John's University	New York
Saint Louis University	Missouri
Schenectady Community College	New York
Shimer College	Illinois
Simon's Rock College	Massachusetts
Skidmore College	New York
State College at Brockport	New York
State University of New York at Albany: James E. Allen, Jr. Collegiate Center	New York
State University of New York at Buffalo	New York
State University of New York at Binghamton	New York
State University of New York at Fredonia	New York
State University of New York at Oswego	New York
State University of New York at Plattsburg	New York
Syracuse University	New York
University of Arizona	Arizona

An Investigation of Student Articulation Programs: A Design for a Study

No systematic comparative description of articulation programs within the different designs has ever been done. Several reasons can be suggested: Individual programs, often developed from local initiative to respond to a local need (Corcoran, 1970), may have little press for information on the comparative advantages of their design. Few programs make any claim that their credit is transferable beyond the sponsoring institution or a limited number of cooperating institutions. Comparative information, then, becomes a peripheral concern. Furthermore, programs developed from local initiative seldom have the resources to support this research. The lack of paralleled information on the various programs poses an additional obstacle to the effort. The type of information collected by each program on its own students is seldom the same. Furthermore, even when the data collected are on the same topic they are seldom collected in an easily comparable form. The problem is certainly not new to higher education; it is widely cited as the bane of comparative research in a number of areas (Powell and Lampson, 1972; WICHE, 1970). Still, it impedes any informed discussion of the relative advantages and disadvantages of each design.

One way to consider the advantages and disadvantages of the different designs would be to compare programs from each design across a series of important issues. A set of these issues are suggested in Figure 1. These items were drawn from a review of the literature and the experience gained by the authors from the operation of Project Advance. The seventeen items group into five

Location of Program	General Description
Type and Kind of Institution Sponsoring	
Student Population Served	
Geographical Range Served	
Program Rationale and Philosophy	Program Goals
Motivation and Source of Impetus for Program Development	
Type of Courses Offered	Instructional Desi
Course Development	
Form of Credit Granted	
Transferability of Credit, Claims and Range	
Administrative Structure of Program	Instructional Strategy
Role of University Faculty	
Role of High School Personnel	
Sources of Financial Support for Program Startup and Continuation	Finance
Operational Budget	
Cost per Credit Hour	
Financial Benefits/Impact to Institutions	

College Faculty Teaching Regular College Catalogue Courses

College Faculty Teaching Specially Designed College Courses

High School Faculty Teaching Regular College Catalogue Courses

High School Faculty Teaching Specially Designed College Courses

main categories, general description, program goals, instructional design, instructional strategy, and finance. In investigating these issues, three sources of data are suggested, a review of the literature, a compilation of internal studies and evaluation reports completed by selected articulation programs, and third, in-depth interviews conducted at selected sites from each of the four primary designs.

This framework for comparing program designs is intuitively simple. Its virtue is in the pressing need for this type of information. With the proliferation of programs linking the curricula of high school and college, the need for comparative study has become clear. This study would provide information useful to high schools faced with a choice of programs from among different designs. It would provide guidance to colleges and universities developing policy regarding the credit students transfer from such programs. It would result in information that students can use in considering the relative merits of different options that might be available. Additionally, the study would provide information to institutions planning to develop their own cooperative programs.

DISSEMINATION AND IMPLEMENTATION OF PROJECT ADVANCE: FACTORS AFFECTING ADOPTION

Robert E. Holloway

It is critical for every new idea that the efforts of dissemination fall on fertile ground. Recognition of factors which augment or impede this process are matters of life or death for an innovation, and sometimes for the innovator.

A division of factors into two groups for analysis may be helpful. First, those factors which are part and parcel of the innovation itself: is it big, small, red; how does it smell; will it float; how much does it cost? Secondly, the characteristics of the potential adopters of the innovation: are they old or young; rich or poor; city or rural? The attempt to develop generalizations about who will do what (and when) rests on the assumption that there is an underlying paradigm or model. If similar groups make similar decisions, a model would help predict. Unfortunately, marketing agencies, not educational institutions, are clearly the leaders in the applied art of prediction.

Project Advance, *per se*, is described in detail in other sections of this paper. Project Advance is a different way of awarding university credit. Loosely defined, an innovation or change is anything which is different. Thus, Project Advance may be described as an innovation and the implementation of the courses in a school must involve change. Certainly there are degrees of change, such as those identified by Chin (1967). These range from restructuring or basic social change to minor variations and permutations. The most minor change, however, involves some sort of process of decision making. Using Project Advance to parce out characteristics which affect rate of adoption has a separate value. Why, for instance, would a school adopt the psychology course but not the course in drug education; why would a school continue to send students to a nearby college instead of offering an Advance Placement or Project

Advance course? Why do some schools seek out and adopt several articulation programs while others reject those that are laid on their doorstep?

Characteristics of an Innovation

Research on innovation and diffusion is a relatively new area of inquiry that appears to have evolved over the last twenty-five years from studies within such divergent fields as medicine, marketing, agriculture, and education. The state of the art is somewhere between a conglomerate of raw empirical studies and general theories of social change.

Obviously, some classes of innovations spread more rapidly than others. Those which seem to thrive are often man-nature changes. Tool-making, agriculture, the sciences generally, are more rapidly and widely disseminated and adopted than abstract concepts or social changes.

Questions which the potential adopter may ask about an innovation are direct and to the point. Generally stated, they are:

1. What are the advantages over what we are currently doing?
2. Is this compatable with other on-going activities?
3. How complex is the new method?
4. Can we try it out first with low risk?
5. Is the process itself and/or the outcomes observable?

Rogers (1971) lists these as factors which may affect the rate of adoption of an innovation: 1) relative advantage, 2) compatibility, 3) complexity, 4) trialability, and 5) observability. An innovation, whether it is new math or marijuana, law or seed corn, is subjected to these or similar questions. It is informative, though perhaps somewhat discouraging, to observe that these factors do not necessarily relate to rational proofs. A proposed innovation

may be rejected by potential adopters for decades then, suddenly, be heralded as the way to do things. The truth of an idea appears to have minimal influence on its adoption rate.

Knowing the perceived advantages and disadvantages of the innovation helps predict difficulties in the diffusion of the innovation. As advocates for a new idea, we are often smitten with the truth and beauty of those changes which we are attempting to disseminate. An analytical view of the innovation qua the innovation may help our perspective. As we become facile at such analytical evaluation of innovations, we will be forewarned of potential trouble areas. With this kind of knowledge we may either modify the innovation or take special care in laying the groundwork for introducing the idea to potential adopters. As previously mentioned, Project Advance may serve as one such example.

Relative Advantage. The perceived benefits of adopting an innovation are determined by multiple and interacting facotrs. Too often the proponent of a change will compare new with old on a linear scale, e.g., Project Advance is better than bussing students to college campuses. Such statements ignore emotional, political, and even economic trade-offs, among others. The sad plea for consideration of an innovation on a linear basis is heard all too frequently, usually in conjunction with lamentations about "politics" in education.

Some changes may offer an advantage on a linear scale yet offer little benefit or, worse, be a liability in other arenas of human endeavor. A convincing argument showing cost-effectiveness if schools are integrated is not likely to sway a legislator sensitive to socially reactive social voting blocs in his district. The proponent of a change must attend to these second order effects.

One approach is to simply state the pros and cons so there are no private

agendas. The assumption in such a move is that public disclosure is morally correct, if not always rewarding. On the pragmatic side, an open agenda sets the stage for dealing with second order problems. Innovations that bring unexpected wrath on the heads of adopters are often disposed of as rapidly and quietly as possible. An open discussion forewarns the adopter and enables him to prepare evidence for any potential debacle. Thus, an open agenda helps get at second order problems which may impede adoption. The proponent can bring out the advantages as well as the disadvantages that might otherwise be overlooked by potential adopter. Further, the adopter is forwarned of sensitive areas and can anticipate or even pre-empt problems.

There are two second order problems in Project Advance to which administrators appear sensitive. These have to do with finances and transfer credit.

The legal and political problems of finance are never far from any administrator's mind. In most districts, unexpected costs or questionable expenditures create trepidation about political (i.e., school board) repercussions. This is avoided by the dissemination of legal opinions on the collection of tuition by Syracuse University, the role the school can and cannot play, policy and procedure on the disposition of the funds, the costs which accrue to the school district as a part of the on-going operation, and possible expenditures in other budgets, such as additional film utilization for the psychology course. Discussions, printed materials, slide presentations, and correspondence in initial contacts all state as clearly as possible the financial conditions. If an appearance at a school board meeting is necessary to fully explain budgets, staff from the project are available either at the request of administrators or volunteer their services. The reassurance that courses are not "money-makers"

for the university is one that is often given. For those that have misgivings, a listing of categories of expenses in the operation, such as travel for university faculty to the high school, training seminars, or evaluation, is helpful in explaining where the money goes. In setting forth the advantages of adoption, the financial conditions are carefully specified. This gives the potential adopter confidence in evaluating the relative financial advantage.

The transfer of earned credit is one relative advantage of participating in Project Advance. A Syracuse University transcript is an *a priori* advantage in having previous work accepted toward credit or advance standing. The size and status of the institution as well as the face validity of a transcript over a test score, work in the student's favor. Additionally, the recent history of student transfers indicates wide acceptance in community colleges and other prestigious institutions such as Notre Dame and Dartmouth. To those familar with transfer problems, such acceptance is unqualified success. What is the cost in goodwill, however, of not carefully highlighting those exceptions, no matter how bizarre? The cost seems to be one of enrollment problems in future sections of the courses in the school involved. Problems travel the informal student grapevine rather than administrative channels.

By the end of the first year, the administration is a vested interest in the project and is more of a proponent of the innovation than an adopter. Typically they have little follow-up information on students. The students having difficulty in transfering credit are in the unresponsive setting of their freshman year, unsure where to turn or who is responsible, but articulate, and perhaps angry, when talking to brothers or sisters still in high school. Students in Project Advance courses are usually socio-economic cohorts, so the news or problems travels fast. Sooner or later this kind of transfer problem surfaces. When it does,

the project staff gives the student's problem full attention: the record is checked to make sure a transcript was requested (the most frequent problem), the college is contacted, course descriptions are sent and, on request, course materials and evaluation information. The administration and staff at the high schools are not upset when such problems emerge since the project's staff has been careful to emphasize their desire to follow up when such difficulties are encountered. Usually the teacher or guidance counselor phones for the student or students involved.

The stimulus for the dissemination of the procedure to follow when transfer problems are encountered came through administrators and teachers from parents. This questioning occurs before money is collected but after Project Advance has been accepted for the following year. The exceptions to transfer credit being accepted, primarily the Ivy League institutions who recognize little credit other than intra-institutional (and sometimes not even that since Harvard often refuses to recognize its own summer school credit), must be highlighted. The assurance that credit is widely accepted becomes a credibility problem when a few students report the exceptions. In short, with poor handling a relative advantage of Project Advance credit can become a perceived disadvantage. In initial contacts with schools, surveys of transfer credit policies are handed out and, at parent and student meetings, the procedure for transfer and the exceptions are noted and discussed. Thus, an open agenda provides for a balanced evaluation of relative advantage and either pre-empts problems or provides the mechanism with which to deal with them.

Relative advantage is perhaps the most important factor in the adoption of an innovation. While there are other advantages of potential consideration and study, the most interesting is the variance among the different publics

involved in Project Advance. The relative advantages of participation are different for administrators, parents, students, and the university. This showed up early in the interviews done by an independent evaluator on the objectives of the staff and administrators in the project. It was repeated in the results of a ranking of objectives in the Spring of the same year (Chapman, 1974). That parents are interested in reducing college costs while teachers are interested in offering a well-designed course to agressive students is not a drawback. In fact, it would appear that a successful innovation may offer something to almost everyone, though the "something" may not be the same. This is usually a desirable state of affairs, as any salesman will testify. As educators, however, we frequently limit our attention to a single group without pointing out the advantages to those tangentially involved. This step is critical when the tangent audience is in a gatekeeping capacity (Havelock, 1973).

Compatability. It appears that the innovation which is most likely to be adopted is that which is closest to what is already being done. Project Advance is more likely to be adopted in a school that already has an articulation program. This adoption seems redundant, and may be in some cases, but the rationale for such programs has already been accepted. More interesting are the course offerings within participating schools.

In both instances the values of existing programs are transfered to Project Advance. This is not to say there are not instances of radical change, but such departures are usually associated with some extent need and involve a simple "unfreeze-move-refreeze" or homeostatic change (Guba, 1968), and appears to be difficult to generalize. The causes may be more situation specific than evolutionary change.

Evolutionary change implies gradual, continuous, and incremental modifications to an existing structure. This description fits better than homeostatic

or neomobilistic (planned) change. However, the recent policy statement by the Board of Regents strongly supports articulation programs and may lead to some planned change.

The indications of evolutionary change are found in the selection of courses by adopting schools. Of the five courses offered through Project Advance, (English; Psychology; Religion; Music: Brass Methods; Drugs in Perspective) English is by far the most widely adopted. Needless to say, English is the closest to existing curricular offerings and appears to involve less risk. The two courses most at variance with existing offerings are Religion and Drugs. And, in fact, these two courses have been offered at only one school each even though as much or more data on course effectiveness is available and both offer more options than English or Psychology. In short, it is not the course itself, but is similarity or compatibility with existing subjects in the curriculum.

The observation may be made that an innovation is unlikely to gain wide acceptance if it is a radical departure unless a crisis situation exists. The more dissimilar the new idea, the longer it may take to be widely disseminated. Conversely, the closer the idea is to existing values, the easier the dissemination process, other factors being equal.

If the change is incremental, the initial contact idea, assuming variety in the innovation, should be that most compatible with existing practices. The innovator with a radically different idea and mixed or unperceived relative advantage must take a sober and philosophical mein in time projections for dissemination and adoption.

Complexity. Rogers (1971) generalizes that the perceived "...complexity of an innovation... is negatively related to its rate of adoption." There are those among us, of course, who are titilated by the complexity of an idea or object. Be that as it may, the majority of potential adopters prefer simpler

changes when a choice is available.

Project Advance is perceived as relatively simple by most adopters. As a factor for adoption, the idea has a positive appeal. In the implementation of programs, there is typically a trial period after initial adoption. The project appears to be in the most danger at this point from creeping bureaucratic complexity. Demands and requests for descriptive and evaluative information swell the number of forms sent to teachers. Additional records and data create a perceived complexity where none need exist. Incumbent as it is on any organization to justify itself, simple survival dictates a close watch on increased complexity as an act of virtual canabalization.

Trialability. Another term, divisibility, previously used by Rogers (1962), aids in describing this factor. The ability to try a small part, or "trial plot", of an innovation reduces the perceived risk factor. Differentiated staffing is a star crossed innovation because it is perceived as difficult to try on a limited basis.

Project Advance is fortunate in that two trial periods exist, the summer sessions for teachers and the gradual addition of courses and sections. The summer sessions give a district's teachers an opportunity to delve into the program in detail without committing the district to the offering of courses. The ability to offer one section of one course enables the district to try the idea with little risk. This has the added practical advantage of familiarizing the district with the program and working out any problems while they are small. Districts that plunge in with large offerings take the chance of having any errors magnified.

Innovations which do not lend themselves to divisibility for trials are at a disadvantage. Divisibility, such as the free sample given by a candy company, carries little risk for the potential adopter and encourages trial.

Observability. To optimize this factor an innovation should be demonstratible, quantifiable, and brief. Hunting and warfare offer some of the best examples of optimization, e.g., a new method of spearing fish; poison gas in World War I. Educational innovations rarely posess these characteristics.

Two approaches suggest promise in Project Advance: 1) related observable phenomena, such as university textbooks or ID cards, and 2) previous evaluation results, such as test results or hours earned. These indirect characteristics are better than no asosciated or directly observable phenomena. The time span involved in obtaining quantifiable results works against observability and, because of the lag, the results are diluted in impact. The associated phenomena, such as university staff in the high school, increases awareness but may more appropriately be classified as a relative political or status advantage. More directly tangible phenomena simply are not extant.

Education generally suffers from slow dissemination of ideas because of their lack of "observability-ness". A few relatively recent innovations, such as drivers training or audiovisual equipment, are observable and thus easier to disseminate. Changes such as "the inquiry approach" or behavior modification" are not easy to observe, difficult to demonstrate on call, and abstract in results.

The procedure which seems to work best is "observability" in a vicarious manner: films, television, newspapers, or other mass communications, including mailings and professional journals. New math and BSCS are recent examples of abstract or difficult-to-observe concepts that were spread widely and rapidly through extensive publicity.

Project Advance has been fortunate in obtaining coverage in several publications and other media. The number of inquiries from areas where television news or interview shows have been aired are clear indications of the

"observability" of the program. Conversely, schools reatively close to districts offering Project Advance courses are often unaware of the program. Observability, for most educational innovations, is more apparent than real. Nevertheless, in the dissemination of abstract ideas, it may be a determining factor in the rate of adoption.

Characteristics of Adopters

If the characteristics of the innovation are held constant, there remains the differentiation between the adoptor as opposed to the non-adopters. Most studies of adopters versus non-adopters have reported on individual characteristics. Since the school system, rather than an individual, adopts Project Advance, it may be more descriptive to determine school system characteristics.

The program is in its second year of operation and sufficent data is not available to make any generalizations about those districts that adopt as opposed to those that do not. Any description of the districts should consider the following varibles.

1. Goals- formal statement as indicator
2. Faculty Characteristics
   a) discipline orientation vs. teaching
   b) degree
3. Workshops- Inservice- (Workshop days per year; Formal inservice support)
4. Size of faculty (Total by discipline) (10-11-12)
5. Size of student body
6. Existing articulation programs
7. Percent of College bound students

8. Income of community
9. Unions and professional organizations
10. Parent associations
11. Administrative organization (curriculum co-ordinator; other staff positions)
12. District size- geographical- population (Weighted- use pop. density)
13. Number of course offerings by semester (Titles) (by desciption)
14. Turnover of faculty- administrators- How new top administrators?
15. Educational level of CSA- income
16. BOCES- Number of co-op programs- % of students involved- geographical distance

If there are differences between adopters and non-adopters, or between early and late adopters, the efforts spent on dissemination of an innovation may be directed at the most likely adopters. Considerable evidence has accummulated (Carlson, 1964; Havelock, 1973; Miles, 1964; Rogers and Shoemaker, 1971) on commonalities in adopter groups and the ways which innovations are disseminated. It will be a logical replication to describe the dissemination of Project Advance in the next few years.

REH 9/74

TWO ISSUES IN THE EVALUATION OF STUDENT ARTICULATION PROGRAMS

David Chapman

Some basic questions about the benefits of articulation programs have yet to be answered. The advantages to students and parents in terms of time and money seem apparent and appealing. The benefits to the high schools in offsetting senior boredom and extending the curriculum have been widely acclaimed (Carnegie Commission, 1973). However, little empirical examination has been given to what persons enrolled in such programs want most from them. Secondly, little attention has been given to what colleges accepting credit from these programs gain from doing so.

One response to the first issue was a study to identify what students enrolled in Project Advance, and parents of those students, consider to be the most important outcomes of that project from a number of possible outcomes that had been identified. The study was one part of the project evaluation, developed from a point of view within evaluation literature often termed "responsive evaluation" (Stake, 1967, 1970). A number of writers advocate evaluation designs that, while attending to specific objectives of a program, also identify the judgements of relevant audiences in terms of their own priorities (Walberg, 1970; Stake, 1967, 1970, 1973; Hill, 1973; Hubbard, 1973). In that sense, the evaluation is "responsive".

In the Project Advance study, students and parents were asked to rate each of 33 statements as important, may or may not be important, or unimportant.*

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* The statistics of the study have not been included in this discussion. However, a more detailed description of the study and analysis of data will be available in several weeks from Project Advance.

Each statement represented a possible outcome of Project Advance, for example "If a student does well in Project Advance courses, he/she will do well as an undergraduate." The 33 items were selected from a larger item pool which was developed after a review of the general literature pertaining to high school-college articulation programs and the evaluation documents of Project Advance.

Results of the evaluation suggest that the equivalence of the courses offered on and off campus is the most important goal of the program to students and parents alike. Both groups rated the comparability of work load, equivalence of grading standards, and equal credit for equal work as priorities. A tight-second were those statements relating to continued assistance from the University in setting up, operating, and evaluating Project Advance courses in the high school. Again there was a high level of agreement between students and parents.

At the lower end of the ratings were statements dealing with favorable publicity that might be received by Syracuse University, Project Advance or participating school districts. While both students and parents rated these outcomes as least important, there was more disagreement between the two groups as to the degree of their unimportance. Parents were more concerned than students that the Project and the local schools receive favorable publicity.

Interestingly, neither parents nor students thought that parents' views should be an important consideration in establishing the goals of Project Advance, although the two groups differed in the strength of their positions. Thirty percent of the parents rated that as an important goal while only 17 percent of the students did so.

The findings from this study challenge some of the literature and much of the speculation surrounding student and parent goals for a high school-college articulation program. Statements dealing with a student's change in attitude

toward college or about his own ability to do well in college were not highly rated. Those goals dealing with the Project Advance experience as a predictor of college success, adjustment, or interest fell into the middle range of the rankings. Items relating to the low cost of credit also fell toward the middle.

These findings run counter to prevalent speculation. They focus the need to empirically examine the priorities of persons for whom articulation programs are developed to serve. In this way, these programs can better respond to the needs and goals of the learner.

(An Aside: The issue of equivalency needs an additional comment. A central claim of all articulation programs is equivalency: The course received by high school students is expected to be comparable in all important respects to the course received by the college students. However, the press for evidence of this equivalence may vary across the four designs. When a course continues to be taught by a college faculty member and only the location and/or audience varies, questions of comparability are often minimal. However, when the teaching responsibilities are extended to other persons, particularly when those persons did not participate in course design, the press for evidence of equivalence develops very quickly. The importance attached to the equivalence between on- and off-campus courses by both students and parents may be particular to Project Advance due to the important role of high school teachers in that design.)

A second basic issue in the evaluation of articulation programs relates to the benefits accruing to the colleges that students from these programs attend. What benefit is received by the increasing number of colleges being asked to accept the credit students bring from such programs? A study completed in 1972 for the New York State Education Department indicated that lower division courses cost only about two thirds as much as upper division courses at the

undergraduate level (Dresser and Chapman, 1972, p. 65). Students entering college with advanced standing are apt to bypass courses that operate at a lower cost per credit hour and move directly to more expensive advanced courses. Colleges may stand to lose money. There is no evidence to indicate that this possible loss of economy is offset by attracting otherwise non-college bound students to college. In fact, students and parents involved with Project Advance did not even see the stimulation of interest in college as a particularly important outcome of that program. The identification of the benefits accruing to the colleges accepting credit needs further investigation.

In summary, it has been argued that the priorities of the groups most directly served by an articulation program need further consideration. Prevalent speculation on the outcomes most valued by students and parents has not been confirmed in the Project Advance experience. Some new speculation has developed. Secondly this section raised questions about the gain or loss to the colleges accepting credit students bring from these programs.

THE EVALUATION OF PROJECT ADVANCE: THEORY AND PRACTICE

Anne Hubbard

This section will report on some of the evaluation activities carried out during the initial year of the project and the relationship of these activities to some of the current literature on evaluation. The evaluation of Project Advance was probably not very different from other evaluations of innovative educational programs, but did possess some unique concerns growing out of the design of the project and of the evaluation.

Michael Scriven (1967) gave prominence to the two roles of evaluation--formative and summative. Since Scriven's article first appeared, many evaluation studies have had a formative and summative piece. The experience with this project however, has led us to question the viability of these roles. Project Advance had an in-house formative evaluator and two summative evaluators--an outside consultant and an in-house evaluator. Both evaluators collected data which could be used either for formative or summative considerations. Because the evaluators' areas of expertise complemented rather than overlapped one another, the two in-house evaluators relied on each other for technical assistance, thereby reducing even further the line between formative and summative evaluation. This experience may be unique to this project, but most likely is not. The sharp distinction drawn in the literature between formative and summative evaluation may not always be as clearly defined in practice.

The evaluation of Project Advance's first year was an effort to combine some theoretical framework with the practical restraints of reality. The overriding theoretical framework within which this evaluation was couched is Robert Stake's notion (1967, 1970) of responsive evaluation and the effort to build a

description of the project by means of the evaluation design.

An evaluation is responsive if it "orients more directly to program activities than to program intent, if it responds to audience requirements for information, and if the different value-perspectives are referred to in reporting the success of the program." (Stake, 1973)

The use of multiple measures is very important in responsive evaluation in building a comprehensive portrait of a program. Results from various types of measures lends more validity to the evaluation than do results from one measure. Multiple measures also help satisfy the requirements of audiences with different backgrounds and interests for understandable information about the project. The Project Advance staff used interviews, questionnaires, rating scales, and discussion groups to build as complete a des ption as possible of this project's first year of operation.

One of the main concerns was the primary audiences' need for information to assist them in running the program smoothly. The designs of both the formative and summative evaluation were drawn up through a process that included discussion of information needs of teachers, administrators (principals, superintendents and guidance counselors), faculty, project staff, and officials from the State Department of Education. While statistical procedures were carried out where necessary, it was felt that this was not the most useful information for project personnel on a day-to-day basis. Therefore quantitative summaries were played down in favor of qualitative information gathered from the groups concerned.

Because the courses implemented in the high schools had been developed by an agency other than the project staff, the more normal concerns of the formative part of the evaluation were changed. The courses and materials had been operating on the University campus and had undergone some evaluation there.

The evaluation of the courses for the project therefore had three foci. The comparability of outcomes on campus and in the high schools was a crucial concern for granting university credit to these courses in the high school setting. Continual evaluation of the course materials was carried out as was done on campus. The third concern--evaluating the implementation of university courses in a high school setting--provided some of the most interesting and unexpected information. Situations which never occurred on a college campus became very crucial to the successful implementation of the courses in the high schools.

Other measures were used in collecting information concerning the process of the courses in the high schools. Students were asked to give their major likes and dislikes of the course and the reasons for these choices. Comments were also collected on each unit in psychology by means of evaluation forms on the unit test. Constant contact by project staff with the university faculty, the teachers, and school administrators kept the staff up-to-date on program activities and alerted them to potential problems before they became very large. An often discussed, but possibly less used practice that proved to be one of the most valuable sources of information were the one-day teacher seminars held for each course each semester. Academic, logistical, administrative, and other course related concerns were aired at this time and solutions discussed with project staff. Student concerns were often relayed to project staff by the teachers. These seminars also provided the teachers with a chance to meet together to discuss the course in each school and to share ideas and solutions to common problems. The sessions were taped and provided extremely valuable information to the project staff in setting up the project for the next year as well as in completing the program's first year.

Another major component of the evaluation which follows from Stake's

framework is the collection of the judgments of worth of the program from the various audiences concerned.

The evaluation of Project Advance served to focus the attention of the staff to issues in evaluation theory as operationalized in this innovative program. The particular administrative structure of this program and the requirements for information helped to blur the formal distinction between the formative and summative efforts. The framework of responsive evaluation proved the most useful in directing the thoughts of the project staff in designing the evaluation plan. The lack of previous programs of this type to offer information for implementing this project and the natural inclination of the evaluation staff gave direction to the type of evaluation to be carried out. Close cooperation and communciation among the various groups involved was facilitated by the design of the evaluation.

REPORT OF GRADES: DISTRIBUTION, ASSIGNMENT, AND VARIANCE

Richard L. Holloway

INTRODUCTION

The purpose of this first evaluation report is to describe student achievement in the first semesters operation of Project Advance. The data has been collected from four major areas.

1. Variance within schools.
2. Variance within courses.
3. Student Achievement at the beginning of the program as compared to program goals.
4. Student Achievement as a base line for comparison with other similar programs and for future comparisons.

Several qualifications and limitations should be noted: It is not the intent of this report to make statements of attribution. Some speculations may be made from the data, but attributional claims are premature at this point. Project Advance claims equivalence for its courses and ones offered on-campus at Syracuse University. This report neither refutes nor supports that claim. This report is an overview of the students' achievement in Project Advance in the first semester of the 1973-74 academic year.

A paper describing the rationale, organization and operation of Project Advance will be forthcoming.

DISCUSSION OF DESCRIPTIVE DATA:

The tables and figures that follow are a report of the first semester's activities at Project Advance participating high schools. Please note that schools are represented by letters. It is essential that schools' anonymity be preserved. Each table and figure should be considered separately, since letters representing schools in one figure do not necessarily correspond to those in another.

Section Sizes:

The data contained in Table I represent the number of enrollments in each of the participating nine high schools. The data is broken down according to course, and totals are given for each course as well as each high school. Below the table is the total school enrollment for each of the high schools. Although little correlation was found between size of high school and number of students enrolled in the project, it is instructive to compare the section size with the school enrollment to obtain a perspective on the relative size of the project. Schools in this and subsequent graphs and tables are anonymously listed as A, B, C etc. The number of students (N = 396) is less than the number of enrollments (N = 462). This is due to the fact that 66 students were cross-enrolled in more than one course.

Insert Table 1 about here

Grade Point Averages:

GPA (Grade Point Averages) for each course, school, and course/within school is contained in Table II. The grand mean ($\bar{X}$) for all schools was 2.9080, based on the standard University system of A = 4.0, B = 3.0, C = 2.0. Please note that grades lower than "C" were not recorded by the University, since the minimum transferable grade is "C". The only exception is Communications, since these grades were compiled by the University rather than the participating high schools. Where there are blanks under schools or courses, this is because the course was not offered at that school.

Insert Table 2 about here

The distribution of the contributing means to the grand mean by high school is presented in Figure one. Distribution by course are presented in figures two, three, and four. The dispersion, represented by the standard deviation, is computed from course means in the cases of English and Psychology. This weights each of those schools equally in the computation of the grand mean. (figure 2 and 3) Since only two schools offered communications, the standard deviation was computed from individual student scores (figure 4). Standard deviations are represented by the broken lines, $\pm$ 1 standard deviation from the mean.

Insert Figures 1, 2, 3, 4 about here

Assignment of Grades:

Figures five and six indicate the grade assignment by percentage of each of the schools in English and Psychology. The percentages are based on the total number of letter grades given for the areas of Fiction and Poetry for the English course. In Psychology, the grades are the final reports. Please note that because of the design of the English course, the "first semester" denotation is an artificial distinction and represents student achievement at the point of about February 1st, 1974. Some students may have attained letter grades in Fiction and Poetry subsequent to that date. Psychology reports were finalized as of February 1st. The semester distinction was an operational one for this course.

Insert Figures 5 and 6 about here

One note of interest: Theoretically, students may earn credit in Psychology after the semester is over, provided they finish before graduation. However, there were no cases reported where students wished to take this course of action. Therefore, the Psychology reports are complete records of student achievement as of February 1st. Those students that did not finish the course indicated their intention to drop before the end of the course.

Assignment of Grades--English:

Figure 7 indicates the percentage of students who received passing grades for the first semester in Project Advance English. A slight negative correlation (r = .55) was found between size of section and percent passing. This is not sufficient to warrant any predictive ability. Please note that once again, schools are represented by letter codes. The number passing is above the broken line bar. The percent passing is indicated inside the broken bar.

Insert Figure 7 about here

FINAL REMARKS:

The pilot year of Project Advance is completed. It was successful in a number of areas, not the least of which was the intense involvement, cooperation, and enthusiasm on the part of students, faculty, administrators, staff, and parents involved in the project. We have learned a number of important things from our pilot year, and as we grow into a large operation, will apply the suggestions from our participants. The 1974-75 year will involve some 45 schools from all over New York State including the Syracuse, Buffalo, Albany, and New York City/Long Island areas. The project will not suffer from this growth: we will maintain our posture as a service to the secondary/post-secondary community.

TABLE 1

FIRST SEMESTER ENROLLMENTS BY COURSE/BY SCHOOL

SCHOOL	A	B	C	D	E	F	G	H	I	COURSE TOTALS
ENGLISH	29	50	60	44	38	29	--	21	55	296
PSYCHOLOGY	--	27	20	20	18	21	38	--	--	144
COMMUNICATIONS AND SOCIETY	--	11	--	11	--	--	--	--	--	22
TOTAL	29	88	80	75	56	50	38	21	25	462

TABLE 2

FIRST SEMESTER GRADE POINT AVERAGES

FOR SCHOOLS, COURSES, AND COURSE/ BY SCHOOL

SCHOOL	A	B	C	D	E	F	G	H	I	GRAND MEAN
PSYCHOLOGY	--	3.3962	3.8000	--	3.5556	3.3571	3.7714	--	--	3.5661
ENGLISH	2.5400	3.1311	2.3200	2.8421	2.9048	2.9248	--	2.0000	2.6250	2.6629
COMMUNICATIONS AND SOCIETY	--	1.8000	--	2.1818	--	--	--	--	--	1.9909
TOTAL MEAN	2.5400	3.1562	2.7240	2.7310	3.2000	3.0694	3.7714	2.0000	2.6250	2.9080

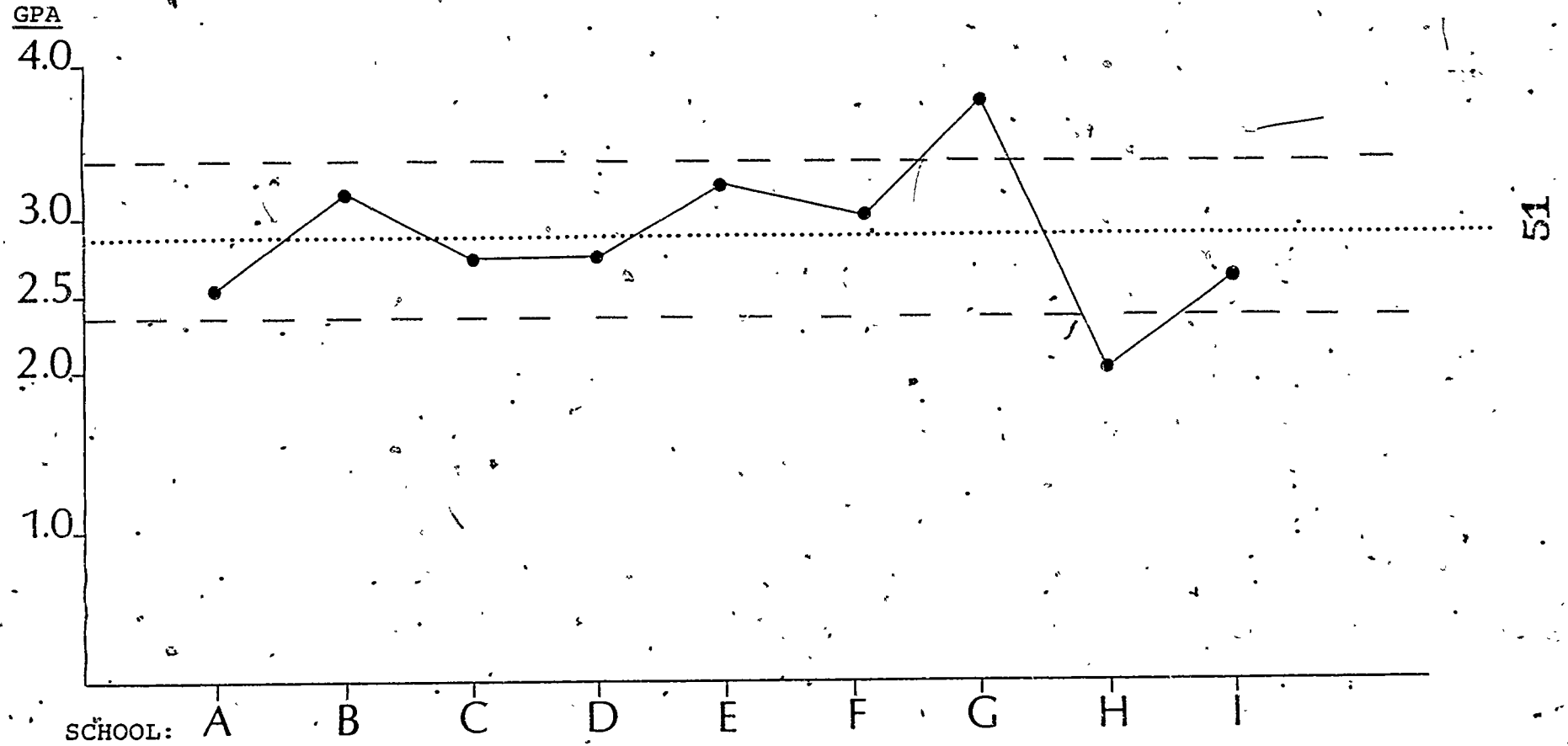
FIGURE 1

Distribution of Grade Point Average

Project Advance
First Semester

— GPA
···· $\bar{x}$ 2.86
--- S.D. = .501

A = 4.0
B = 3.0
C = 2.0



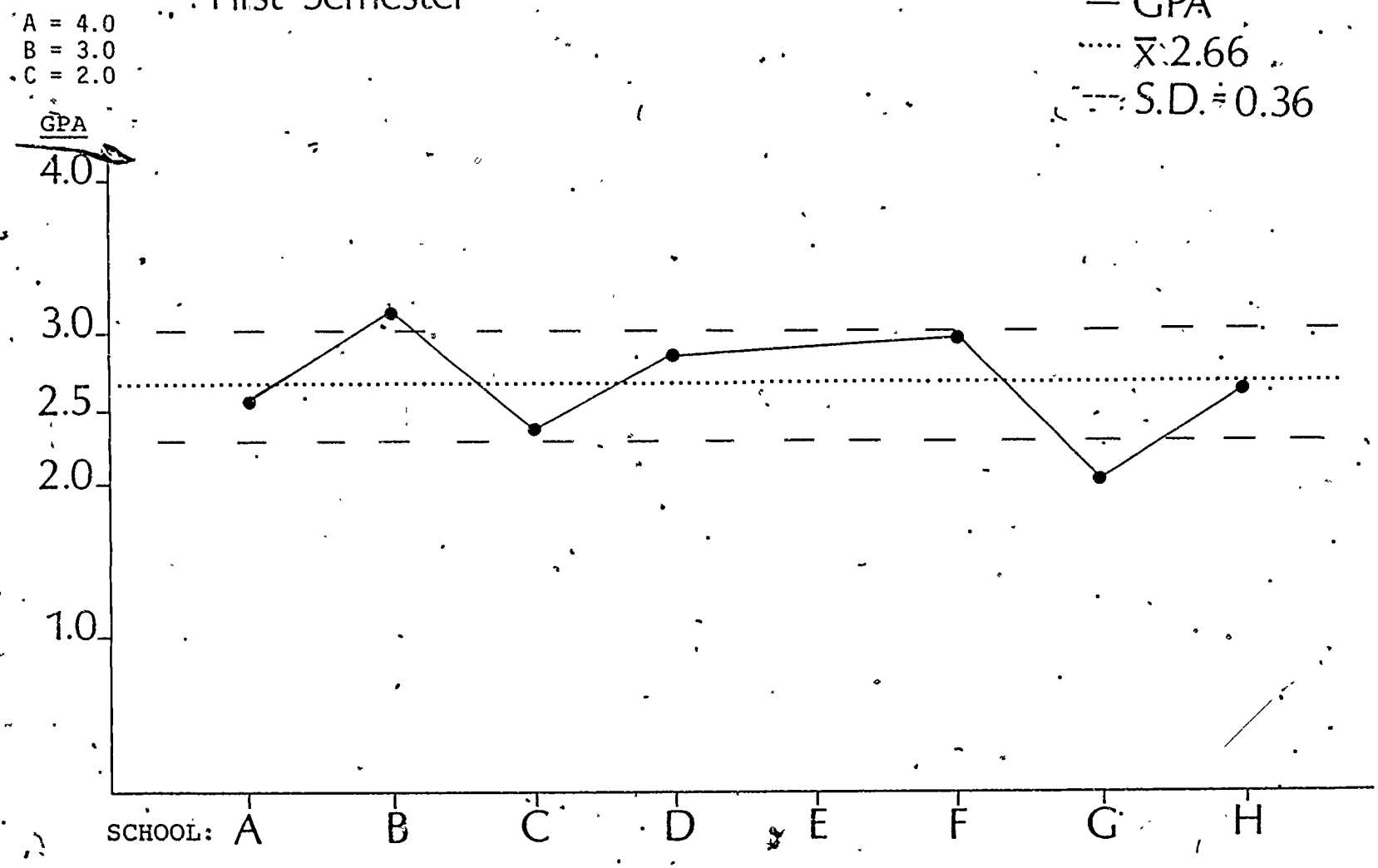
Note: Letters representing schools in one figure do not correspond to letters used in others.

FIGURE 2

Distribution of Grade Point Average

English 101

First Semester



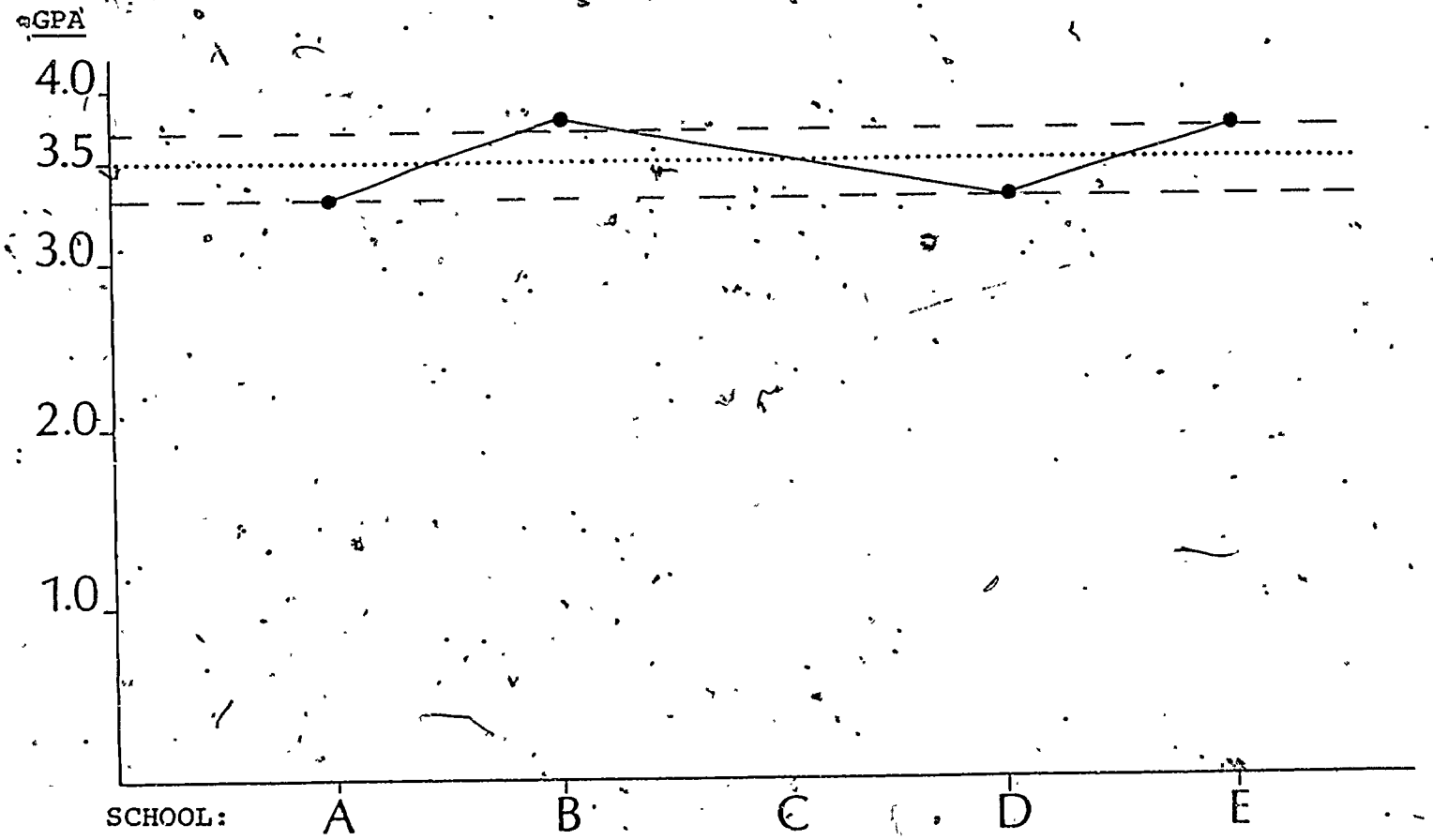
Note: Letters representing schools in one figure do not correspond to letters used in others.

FIGURE 3

Distribution of Grade Point Average
Psychology 205
First Semester

A = 4.0
B = 3.0
C = 2.0

— GPA
···· $\bar{X}$ 3.56
--- S.D. = .21



Note: Letters representing schools in one figure do not correspond to letters used in others.

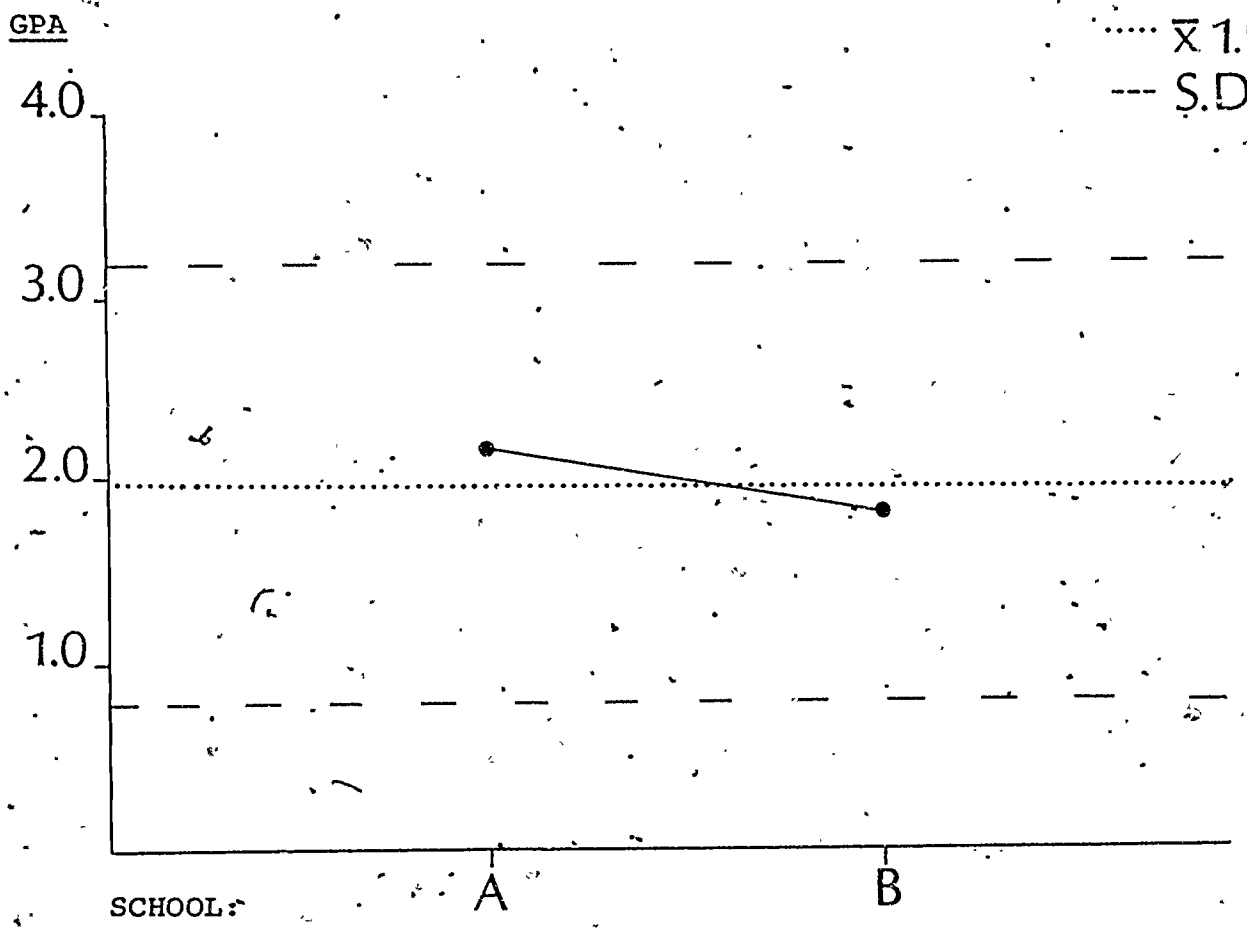
FIGURE 4

Communications and Society

Grade Distribution
First Semester

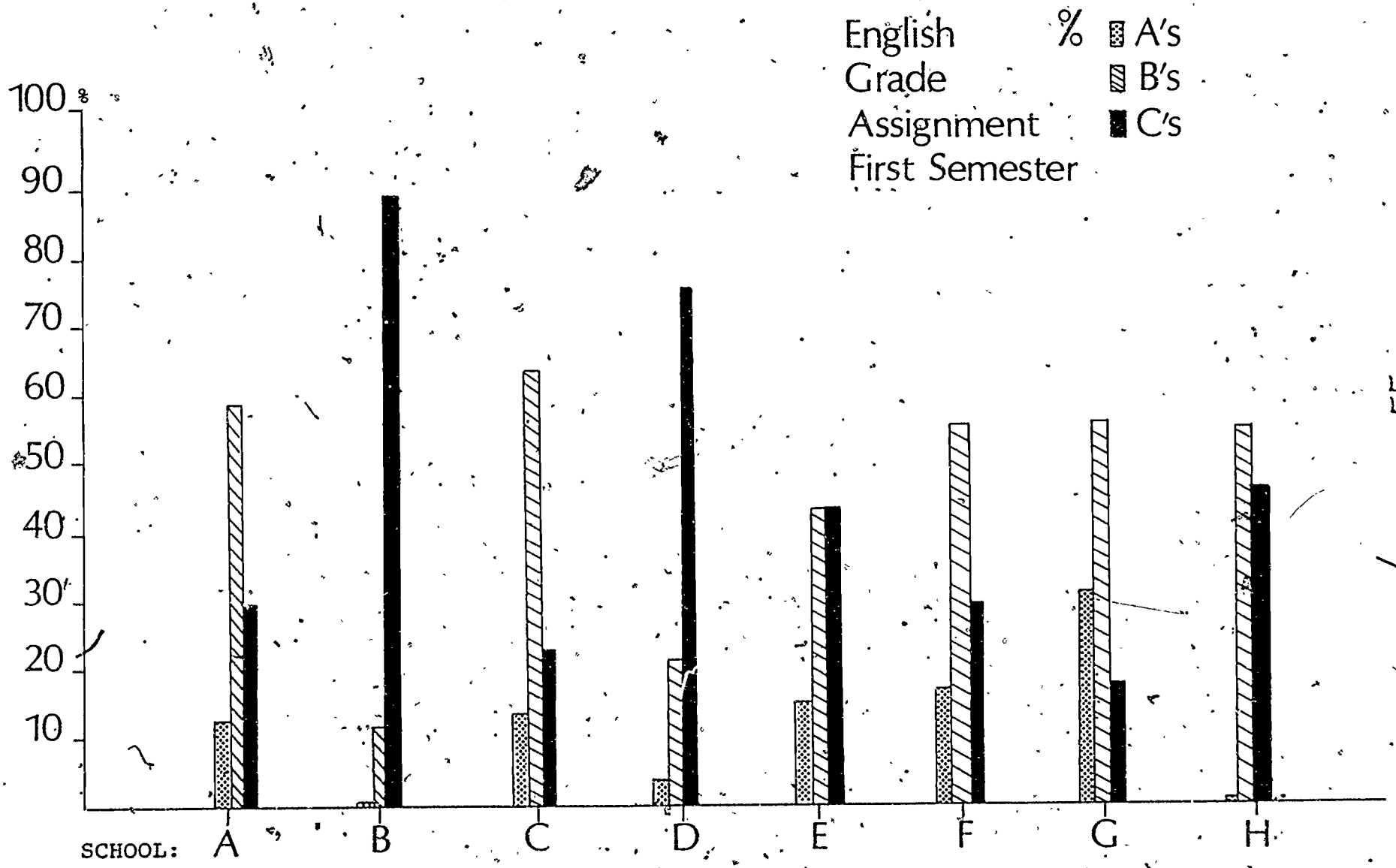
A = 4.0
B = 3.0
C = 2.0

— Average
····· Grand Mean
····· $\bar{x}$ 1.99
--- S.D. = 1.22



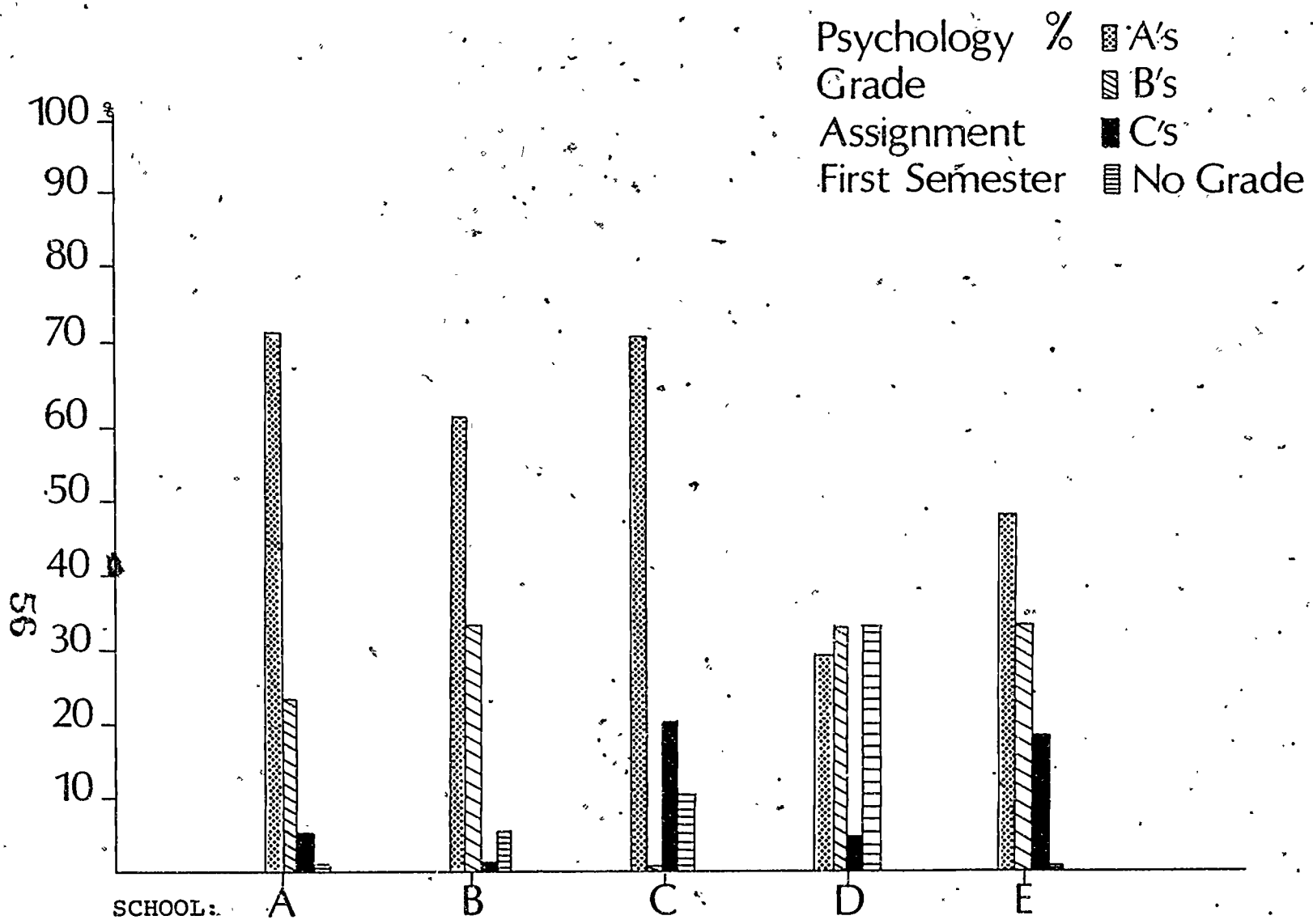
Note: Letters representing schools in one figure do not correspond to letters used in others.

FIGURE 5



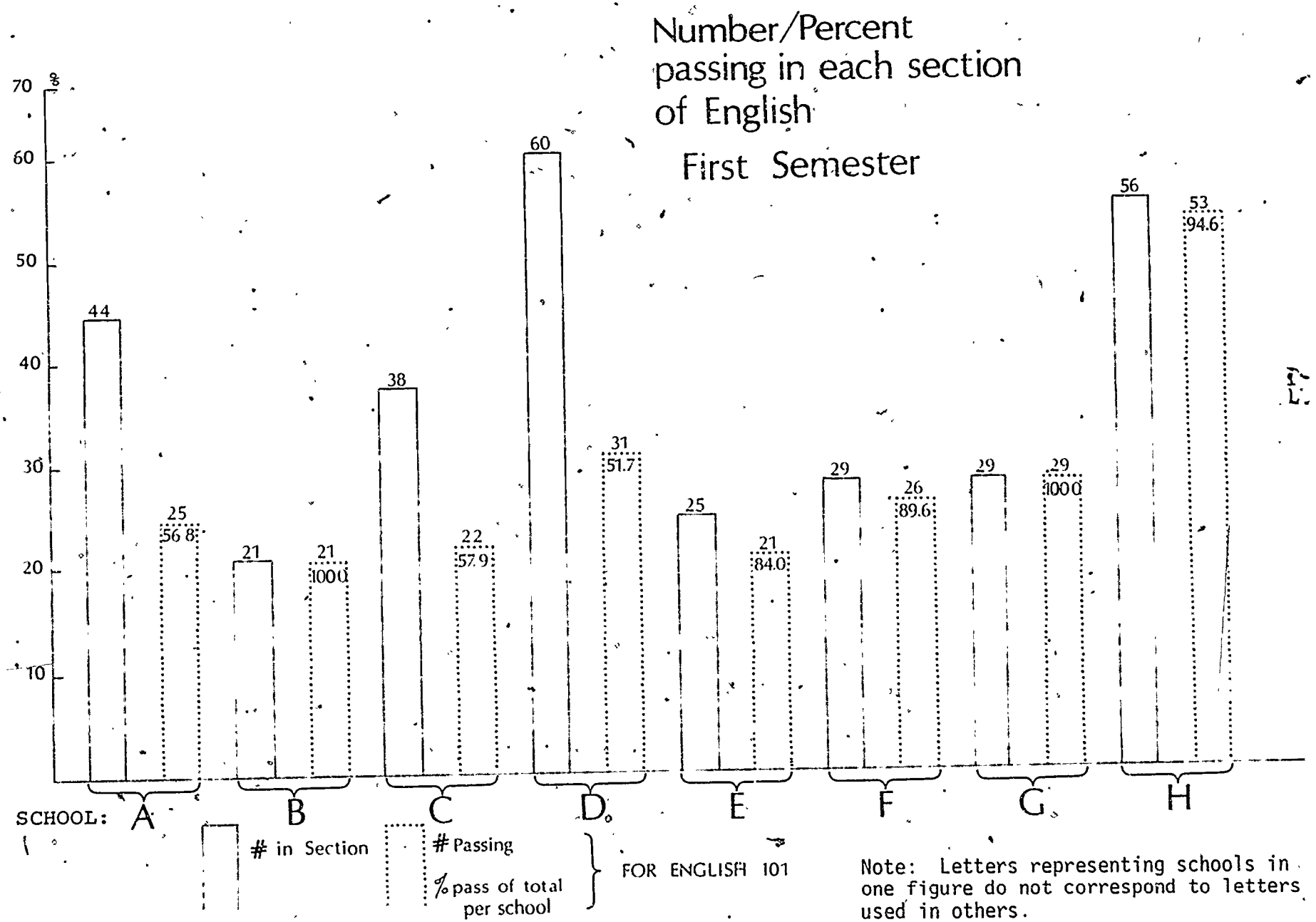
Note: Letters representing schools in one figure do not correspond to letters used in others.

FIGURE 6



Note: Letters representing schools in one figure do not correspond to letters used in others.

FIGURE 7



Note: Letters representing schools in one figure do not correspond to letters used in others.

Syracuse University Project Advance

This section on the background and first year's operation was written by the Syracuse University News Bureau in conjunction with Dr. Robert M. Diamond, Assistant Vice Chancellor for Instructional Development.

Project Advance is an effort by Syracuse University to bridge the gap between high school and college. The Carnegie Commission on Higher Education in its August 1973 report cited the needs and problems in this bridge building process. The report called for an end to the needless duplication between high school and college programs and for the awarding of college credit for college work completed in a student's high school senior year.

The "Senioritis" Problem

The Carnegie report pinpointed a problem which high school principals and teachers have long been aware. Many students complete all basic requirements for college admission in their junior year. Consequently too many students merely mark time in their senior year, especially after they've been accepted in college, and are victims of what is loosely described as "senioritis" or an extended "goof-off" period.

A number of methods have been tried to beat the problem of senioritis with varying degrees of success. One alternative is for students to study and take advanced placement tests, thus being able to omit some freshman courses while in college. However, the tests do not always measure adequately what a student knows or would have the opportunity of learning if he were to take the courses.

Another approach has been for college faculty to commute to high school campuses and teach courses. Immediate problems are the limited number of faculty for such programs, travel limitations and costs to the sponsoring college.

A third alternative has been for some students to travel to college campuses for course work. Here, too, the problems arise of costs, scheduling and geography (not all high schools are conveniently located near colleges with such programs).

The fourth alternative of students skipping their high school senior year has an inherent social and psychological problem. While some students may be ready academically for such a move, they may not be willing and ready for social

or psychological reasons.

Project Advance Beginnings

Syracuse University initiated the Center for Instructional Development (CID) in the summer of 1971. Its original intent was the improvement of the academic programs on campus with preliminary emphasis being placed on many of the large group lower division courses. By the fall of 1972, CID had worked closely with the SU faculty and had redesigned and field tested a number of existing courses and had implemented several new ones.

Several Syracuse area school district superintendents had contacted the University's Vice Chancellor for Academic Affairs, John James Prucha, and asked for help in solving the problem of "senioritis." Prucha asked Robert M. Diamond, Assistant Vice Chancellor for Instructional Development and Director of CID, for program suggestions.

Diamond and the CID staff studied the problem and reported back the proposal that became Project Advance. Diamond's ideas were different in two major aspects from any of the methods already attempted in allowing high school seniors to earn college credits.

First, college credit courses in a high school would be taught by the school's own faculty members. The teachers selected would have strong backgrounds in course subject matter. The teachers would be trained by SU faculty in evaluation techniques and methodology. All courses offered would have been field tested and would be identical in content, approach, and evaluation to those offered students at SU. SU faculty would go to the high school teachers in their schools periodically and work with the teachers. Two grades would be issued for each course-- one for high school credit and one for SU credit. It would also be possible for a student taking a course to earn high school credit and not college credit.

Second, the SU credit hours earned by a high school senior would be accepted at any institution that accepted SU transfer credits. Thus a student could earn college credits in advance and not be tied down to any one institution.

Pilot Project Advance

Diamond's proposals for Project Advance were accepted by Prucha and by a representative group of department chairmen, deans, and faculty with the under-

standing that the project would have to be self-supporting. Diamond and CID staffers met with area superintendents and principals. Five courses that had been restructured and field tested by CID and SU faculty were proposed to be offered in the pilot school year of 1973-74. Funding for the summer teacher training program and the evaluation of the overall project was obtained from the New York State Department of Education.

Principals and superintendents were enthusiastic about the project. Rodney Wells, superintendent of Jamesville-DeWitt School District:

> "I am tremendously elated with Project Advance in our school system. There are many criteria by which to judge this. First, is the positive word of mouth which has led to an increased enrollment. This past year 94 students were enrolled in psychology and English courses. Next year 121 will be enrolled in the program. Often, a student's senior year may not offer the meaningful experiences that he or she has experienced in the past years. However, with Project Advance, an entirely in-depth experience has been made available. I hope the program will eventually be expanded to include an entire freshman year of courses."

Richard McGee, principal of Jamesville-DeWitt High School:

> "The response to the Project Advance has been excellent. The program has been successful with students and parents. Of the 44 students enrolled in psychology last year, 39 completed the course. In the English course, 56 of 58 finished successfully. We have a vast range of senior electives here, but the fact that students can obtain college credit, I feel, has made the program successful."

Fritz Hess, superintendent of East Syracuse-Minoa School District:

> "The attitudes towards Project Advance have been great! The courses have given the seniors a new perspective on their school work. They're actually working for something. Usually seniors slow up, but the program acts as an incentive for students and at the same time upgrades our school program. The enrollments for the English and psychology courses have increased over 50 per cent for the coming year."

The high school students participating did not have to travel but remain in their schools. No additional faculty have to be hired to teach the courses. The courses are taught by teachers as part of their regular teaching load. The courses offered had already been field tested, and their students were able to try college courses while still in high school.

The fee and cost structure was nominal compared to on-campus tuition. Stu-

dents earning college credit would pay the overhead costs for SU's support faculty consultation, regulation and evaluation. A student would pay $50 for a three-credit course, far less than he would have to pay if he were a freshman on the SU campus. In addition, a school district could select any number of the five courses to offer in its district.

Five school districts from the Syracuse area decided to try Project Advance for the pilot year. They were East Syracuse-Minoa, Fayetteville-Manlius, Jamesville-DeWitt; Liverpool and Syracuse City schools. A sixth district, Lewiston-Porter from the Buffalo area, also expressed interest after learning of the project from a former student then at SU. The Lewiston-Porter district gave added dimension and an opportunity to test the project outside of the Syracuse area.

Course descriptions were written and preliminary paper work completed. Advance registration was held in the participating high schools.

More than 60 high school teachers, selected by the participating districts and approved by the SU faculty, assembled on the SU campus for Project Advance training in the summer of 1973. They worked with SU faculty responsible for the same courses offered to freshmen on the SU campus. Workshops dealt with methodology, evaluation, and tailoring of courses to meet the individual schedules of each high schools.

Project Advance opened in the fall of 1973 in nine high schools, with more than 300 students enrolled. Courses offered were drugs, communications, psychology and a two-semester course in freshman English. The courses were designed on a unit basis, with evaluation at the conclusion of each unit. Students were evaluated in their performance in the courses and were asked their general reaction to both the project and the specific courses in which they were enrolled. The high school teachers met regularly with the consulting University faculty and, as a group, twice yearly to discuss what they had done, what worked and what didn't.

First Year Results

The pilot year proved successful, generating nearly 3,000 SU credit hours for high school seniors. Communications between high school teachers and SU faculty were good, and problems in administration were able to be solved.

Robert E. Holloway, Coordinator of Project Advance, and now Associate

Director of Project Advance in the Center for Instructional Development, reported that parents and students were enthusiastic about college credits from a major institution at a modest cost. Students successfully completing courses for college credits were provided official SU transcripts for use at other schools.

Administrators reported that participating high school seniors had become much more aggressive about their studies and that the project had done much to cure cases of senioritis. The participating teachers reported that they enjoyed the challenge of teaching college-level courses and working with highly motivated students.

"Most of all," Holloway said, "the project was a public service to the community that really helped in the bridge building process between high school and college."

Continued Growth

By the conclusion of the pilot year, plans were in progress for overall expansion of the project. CID received inquiries from school districts across New York State. More than 40 school districts in the state's major urban areas and on Long Island will be participating in the 1974-75 school year. Holloway reports that Project Advance is now the largest program of its type in the nation with more than 1500 high school students preregistered for course work this fall.

Over 100 teachers received training this July on the SU campus for the Project's second year. SU faculty and project administrators also conducted sessions the first week in June for an additional 80 teachers from the Long Island area at the Nassau County Board of Cooperative Educational Services. The State Education Department is continuing its funding of project training and evaluation costs. High school teachers are not paid additional money for teaching the courses but do receive college credits for their training from SU.

The five courses to be offered next fall are Human Values, Psychology, Perspectives on Drugs, Music: Brass Methods, and a two-semester course in freshman English. As in the first year, all courses are identical in content to those given on the SU campus.