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AUTHOR Erickson, Edsel L.; And Others
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ABSTRACT

The Cluster Program, funded under Title I of the 1965 Elementary Secondary Education Act, is a two year mini-school designed for 150 ninth year and 150 tenth year students in ten classes of 30 students each. Students are admitted to the Cluster Program on the basis of being two years or more behind in reading and mathematics skills. The major focus is on rapid improvement of these skills. Each term is divided into four phases of approximately four weeks each. Two weeks prior to the beginning of a new phase, teachers submit descriptions of the courses which they will offer. These are combined into course catalogues containing 60 to 70 offerings. While basic requirements must be met, courses are largely elective. Programming is individualized and accomplished manually through the use of course cards to limit and balance registration. Reports issued at the end of each phase indicate student progress according to a "mastery," "pass," "incomplete," or "no credit" code. The focus has been upon getting students to complete tasks and not to compete for grades. Many courses have contracts drawn up between the teacher and the individual student for this purpose. (Author/JM)

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FINAL REPORT
OF THE EVALUATION
OF THE

1971-1972

BENJAMIN FRANKLIN CLUSTER PROGRAM

PROGRAMS AND PATTERNS FOR
DISADVANTAGED HIGH SCHOOL STUDENTS

Evaluation of a New York City school district educational project funded under Title I of the Elementary and Secondary Education Act of 1965 (PL 89-10), performed under contract with the Board of Education of the City of New York for the 1971-72 school year.

TEACHING & LEARNING
RESEARCH CORP.

91-31 Queens Boulevard, Elmhurst, New York 11373, 212-478-4340

UD 013151

EVALUATION STAFF

BENJAMIN FRANKLIN HIGH SCHOOL CLUSTER PROGRAM

Dr. Edsel L. Erickson	Evaluation Director Teaching & Learning Research Corp.
Patricia Dutmers	Research Associate Teaching & Learning Research Corp.
Simone Sternberg	Research Assistant Teaching & Learning Research Corp.
Lawrence Taylor	Research Assistant Teaching & Learning Research Corp.
Bev Hamlar	General Curriculum Specialist: Languages and Social Studies Teachers' College, Columbia University
Dr. Phillip White	Science Curriculum Specialist Queens College
Dr. Harvey Walker	Mathematics Curriculum Specialist Queens College
Dr. Percy Bates	Administration Specialist University of Michigan
Dr. John Dow	Administration Specialist Teaching & Learning Research Corp.

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EXECUTIVE SUMMARY

BENJAMIN FRANKLIN HIGH SCHOOL CLUSTER PROGRAM

1971-72

The Cluster Program is a two year mini-school designed for 150 ninth year and 150 tenth year students in 10 classes of 30 students each. Students are admitted to the Cluster Program on the basis of being two years or more behind in reading and mathematics skills. The major focus is on rapid improvement of these skills. Each term is divided into four phases of approximately four weeks each. Two weeks prior to the beginning of a new phase, teachers submit descriptions of the courses which they will offer. These are combined into course catalogues containing sixty to seventy offerings. While basic requirements must be met, courses are largely elective. Programming is individualized and accomplished manually through the use of course cards to limit and balance registration. Reports issued at the end of each phase indicate student progress according to a "mastery", "pass", "incomplete", or "no credit" code. The focus has been upon getting students to complete tasks and not to compete for grades. Many courses have contracts drawn up between the teacher and the individual student for this purpose.

Program Objectives

- A. Recognition by the student of his progress in acquisition of basic skills in language arts, science, mathematics and social studies.
- B. Feeling of competence on the part of students in the performance of tasks and the making of decisions.
- C. Pursuit, through course selection and by other means, of satisfying paths of learning and experience of the student's own definition.
- D. Development of feelings of competence in relations with family, authority figures, and peers.
- E. Development of self-esteem (and the concomitant respect for others).

Evaluation Objectives

- A. To assess whether there is a significant increase during the school year in the ability of the student to function independently as compared to a control sample of Benjamin Franklin High School students.
- B. To assess whether 80% of the students improve one or more grade levels, 30% improve two or more grade levels and 20% improve three or more grade levels on standardized achievement tests in mathematics and reading.
- C. To assess whether the attendance rate of the Cluster Program enrollees is 15% higher than the average of the rest of the student body.

- D. To assess whether the lower student-teacher ratio results in increased service to students which is recognized by 50% or more of the Cluster enrollees.
- E. To assess whether the innovative elements in the Cluster Program have been recognized and utilized by the staff at Benjamin Franklin High School.
- F. To assess the costs effectiveness of the Program.
- G. To determine the extent to which the Program has been implemented according to plan.

Evaluation Procedures

The evaluation of the extent to which the Cluster Program achieved its aims involved administering questionnaires to approximately 250 Cluster and control group students. In addition another 37 Cluster students were interviewed after classes. Eighteen teachers, not in the Cluster Program were questioned about their perceptions of the Program. In addition, five consultants and three evaluation staff from TLRC made over 20 on-site visits for observations and interviews.

Absenteeism data and achievement scores were obtained on all Cluster students. Absenteeism rates of Cluster students were compared with high school norms over a six month period. The achievement gains were assessed by administering parallel forms of the Metropolitan and California Achievement Tests in October, February and May.

Summary of Findings

1. Students in the Cluster Program were more likely than control students in the regular high school program:
 - a. To initiate and make contact with their teachers when having classroom problems.
 - b. To receive more help from their teachers when having classroom problems.
 - c. To develop positive self-conceptions of being able to perform academic tasks.
2. Students in the Cluster Program:
 - a. Made gains in reading achievement amounting to over one and a half years in seven months.
 - b. Averaged gains in mathematics of between one year and one month to one year and four months in seven months.
 - c. Were highly aware of the unique resources afforded them in the Program.

3. The Cluster Program failed to meet one major objective. The majority of teachers in the high school who were not involved in the Program have not adopted materials or concepts unique to the Cluster Program. Most teachers, as of January and February, appeared to be unaware of much that was involved in the Cluster Program.
4. The average additional per student cost of the Cluster Program was \$740.00.
5. The Cluster Program, for 1971-72, was conducted according to plan as set forth in funding proposals.

Summary of Conclusions

1. Additional effort should be made to acquaint the regular teaching staff with information about the materials and conduct of the Cluster Program.
2. It is recommended that the Cluster Program at Benjamin Franklin High School be continued and given the resources and support of the staff, and expanded to include a larger proportion of students in Benjamin Franklin High School.

Chapter I

BENJAMIN FRANKLIN HIGH SCHOOL CLUSTER PROGRAM

PROGRAM DESCRIPTION*
1971-72

Following a brief description of the Cluster Program in general and the general objectives of the Program each of the major curricular components are described in detail because of their unique features and objectives. The major curricular components are English, reading, mathematics, science, and social studies. For a discussion of the background of the Cluster Program at Benjamin Franklin High School see Appendix E.

GENERAL DESCRIPTION

The 1971-72 Cluster Program is a federally funded two year mini-school designed to serve the needs of 125 ninth year and 125 tenth year attending students in 10 classes of 25 students each. Students are admitted to the Cluster Program on the basis of at least two years retardation in attainment of mathematics and reading skills and a major focus of the program is on rapidly improving these skills.

In addition, there has been an ongoing effort to implement some broad based curricular reforms throughout the school along the Cluster model. The current stage of these curricular plans is described, by subject area, in the following pages.

Ten teachers, two in each subject area including reading; five curriculum developers, one in each subject area; and five educational assistants, one in each subject area, create area teams which plan curricula, prepare course materials, teach or more often team teach, evaluate results, and maintain records. The Program also has administrative and guidance components. (See Appendix D for an outline of organization and specialists.)

Although for the purpose of maintaining uniform school records for all students, Cluster work for a term is translated into data similar to that recorded for other students. The Program has a different type of programming, calendar, and marking system.

* Material in this section was abstracted and edited by permission of program administrators from program descriptions presented to the school staff. See: R. Goldfeder, M. Taylor, and C. Doerner, "The English Curriculum", Mimeograph, March 1972; M. Schwartz, M. Taylor, and C. Doerner, "The Reading Curriculum", Mimeograph, March 1972; A. Odden, M. Taylor, and C. Doerner, "The Mathematics Curriculum", Mimeograph, March 1972; L. Sherman, M. Taylor, and C. Doerner, "The Science Curriculum", Mimeograph, March 1972; B. Noble, M. Taylor, and C. Doerner, "The Social Studies Curriculum", Mimeograph, March 1972. Please credit the Benjamin Franklin High School Cluster Program when citing material in this chapter and Final Report.

Each term is divided into four phases of approximately four weeks each. Two weeks prior to the beginning of a new phase, teachers submit courses which they will offer. These are combined into course catalogs containing 60 to 70 offerings of which about 40 are different from one another and 10 to 15 have not been previously offered. While some basic requirements must be met, choices are largely elective. Programing is individualized and is accomplished manually through use of pre-registration forms and a college system of course cards to limit and balance registration.

Considerable published learning material is sampled and evaluated for appropriateness for Cluster students, but much classroom material is of local design. Files of such materials are common in the five classrooms which serve all the program's needs, and course books containing all the materials for each new or revised phase course are ordinarily bound and filed for reference.

Reports issued at the end of each phase indicate student progress according to a "Mastery", "Pass", "Incomplete", or "No Credit" code which has numerical equivalents. The focus has been upon getting students not to compete for grades, but to work against a task. Many courses have contracts drawn up for this purpose.

PROGRAM OBJECTIVES*

- A. Recognition by the student of his progress in acquisition of basic skills in language arts, science, mathematics and social studies.
- B. Feeling of competence on the part of students in the performance of tasks and the making of decisions.
- C. Pursuit, through course selection and by other means, of satisfying paths of learning and experience of the student's own definition.
- D. Development of feelings of competence in relations with family, authority figures, and peers.
- E. Development of self-esteem (and the concomitant respect for others).

*Obtained from formal request for funding "Benjamin Franklin High School Cluster Program, Function No. 920663". School year 1971-72.

MAJOR CURRICULUM COMPONENTS

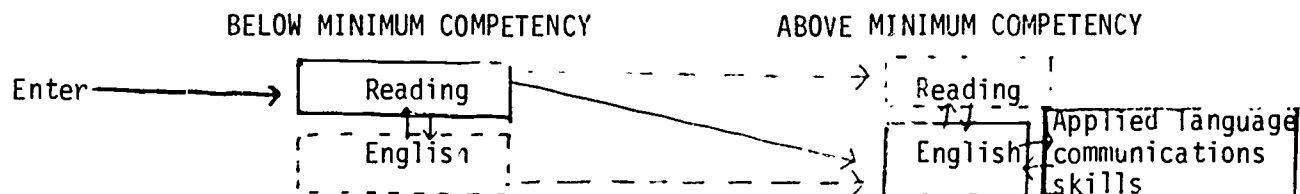
Restated, the Cluster Program includes five major areas of coordinated focus, each with its own unique features and objectives. They are elaborated as follows:

The English Curriculum*

The language arts component of the Cluster Program seeks to provide an individualized approach to increasing the skills, abilities and motivation of students through a broad spectrum of courses offered in the areas of reading and English. The reading program is primarily remedial, and is developed sequentially from the lowest level decoding skills to the most sophisticated inductive and deductive comprehension skills. The specifics of approach, methodology, and objectives of the reading program are detailed elsewhere, but certain processes and criteria relative to the relationship of the reading and English programs bear clarification.

If the reading program may be seen as remedial and sequential, then the English program may be described as progressive and elective. Therefore, a minimum competency level has been established beyond which participation by students in the remedial reading program is no longer required. These students, it is felt, will be sufficiently challenged and can adequately handle the skills components built into the English electives. There is, however, no barrier placed in the way of the student who is motivated to continue in the more sequentially oriented reading program. In fact, there is an inherent circularity in the language arts program which fosters this kind of feedback for students both above and below the minimum competency level. The student may recognize, or the teacher may advise, a need for increased reading speed, vocabulary building, or skills building in any area more specifically handled in a reading class. The student is then programmed so as to appropriately satisfy those needs. The elective English program is the place where these reading skills are developed and integrated into a wholistic approach and are applied in a challenging and relevant manner.

Thus, before we deal in detail with the elective English program, we may chart the flow of students through the total language arts component of the Cluster Program as follows:



* R. Goldfeder, M. Taylor and C. Doerner, op. cit.

Sample Tracks:

- A. Student enters, takes reading until minimum competency is reached and moves on to English electives.
- B. Student enters, takes combination of reading and electives, attains minimum competency and continues in both.

BASIC PHILOSOPHY AND OBJECTIVES

A child learns to stand because he wants to reach something. A child learns to walk because he wants to get somewhere. A child learns to talk because he wants to communicate. A child learns to read because he wants to understand.

Of course, if a child does not walk by a certain time, an evaluation must be made to find reasons for his retardation; often specific behavior training may be necessitated as a remedial technique. The longer one waits, the less chance there is for success.

The language-arts program in Cluster recognizes that some children are in need of remedial training in reading and a variety of approaches are being used as outlined in the discussion of the reading program. However, developmental psychologists have never been able to point to a specific timetable for reading readiness.

The English program, therefore, is most sensitive to and focuses on language development as a complex set of skills which are normally and most successfully learned by exposure to situations which evoke a need and/or desire to know.

The opportunities to build the responses or experiences of the individual student or of the group into the learning process are always there. It is the teacher's responsibility not only to provide curriculum which evokes meaningful response and provides meaningful experience, but also to be sensitive to and to utilize whatever opportunities for process learning arise from the students themselves. No matter how unexpectedly it may come about, when a student says, "I want to know.....," the teacher must be ready. To this end, the program must remain open-minded and open-ended in its approach.

The curriculum of the Elective English Program, although wholistic in its approach, may be most clearly defined as composed of four component strands. These four strands cover the potentials for all learning in the language arts beyond the limits of the remedial reading program. In keeping with the elective nature of the program, all students will not be equally exposed to each of these components, but there is in most courses enough overlap to provide each student with the broadest possible base of experience and learning.

The four components are:

- | | |
|--------------------|------------------|
| 1. Literature | 3. Writing |
| 2. Topical Studies | 4. Arts Workshop |

The curriculum and objectives in each area are discussed in detail.

A. Literature

Traditionally, literature has been the major focus of secondary school English programs. The basis for this has been the assumption that the student has by this point in his or her schooling learned to read well, and is motivated to read more. The teaching of literature then serves to reinforce the tradition and values, socially and aesthetically, of the dominant culture. If we further consider this tendency as a carryover from a period when only a small percentage of the population was expected to graduate from high school, we see this as part of the process of developing an intellectual elite.

In applying these criteria to mass education today, we find not only that the basic assumption is untenable, but also that the elitist objective is antithetical to the goals of contemporary education.

A curriculum in literature is only valid if it serves the interests of the community whose children are subjected to it, and if it is responsible to the needs of its students. We have tried to define our objectives in accordance with these criteria. The following assumptions may clarify our position.

1. Literature can be important as a means of illuminating those things which are universal and basic to the human condition and as a means of promoting a critical understanding of society.
2. Literature is also important as an aesthetic and culturally enriching experience which provides pleasure and fulfillment.
3. There is a body of important literature which is culturally and socially relevant and which satisfies the above-mentioned assumption.
4. Focusing on culturally and socially relevant material provides the motivation for an exciting and dynamic experience in literature. The literature courses offered in the Elective English Program are consistent with these assumptions and are only a starting point. There is in each literature course a dual challenge to the student; an intellectual challenge and a skills challenge. The teacher must capitalize on the initial interest inherent in the students' having elected the course. The skills challenges, vocabulary building, comprehension and writing assignments, are presented as aides to resolving the intellectual challenge, appreciation and evaluation of the material.

The literature program, while maintaining its relevant and highly motivational approach is also concerned with offering opportunities for the student to develop an appreciation of various literary forms. Over the course of the year, stories, novels, poetry, drama, biographies and non-fictional works will be included to provide the richest and broadest experience possible. Following is a sampling of courses listed according to literary genre:

Short Stories - Black Folk Tales, Modern African Prose, African Treasury
 Novels - Native Son, The Brave African Huntress, Johnny Got His Gun, Childhood's End
 Plays - Harlem Renaissance, No Place to be Somebody, Purlie, El Haj Malik.

Poetry - New Black and Latin Poetry, Modern African Poetry, Modern American Poetry.
 Biography - Down These Mean Streets, Manchild, Black Boy.
 Other Non-Fiction - Soul on Ice, Soledad Brother.

B. Topical Studies

To increase the students' understanding and involvement in areas of knowledge which are immediately relevant to contemporary society, courses are offered in which an overview of a single topic is examined, discussed and evaluated. These topical studies courses fall into two broad categories, both of which are integrally related to language arts.

Area one encompasses media studies. It deals with the impact of mass communications, newspapers, magazines, radio, T.V. and film on contemporary life. The objective is to understand how media functions, and to critically evaluate its status and potential. Opportunity is also provided for exploration of the skills utilized in media production and for a realistic appraisal of vocational possibilities in the field.

Area two deals with the social sciences. At a time when one in every eight workers in New York City is involved in the area of community service or related fields where some training in the social sciences has been required, we still find no provision made in the high school curriculum for laying a foundation or motivating involvement in the social science areas. We live in a time when socio-cultural awareness, socio-political involvement and psycho-social sensitivity are of primary importance. Therefore, the inclusion of courses of current or universal interest centered around a topical theme related to some area or areas of the social sciences has been recognized as a necessary part of the language arts program. The objective of this course is to provide a theoretical perspective and a practical examination of the problem area under study through readings, discussion, research and writing on a group and individual basis. Samples of courses offered:

Media

Journalism
 Advertising
 Television
 Communications

Social Sciences

Latin Culture
 Voices From Prison
 Schools
 Woman's World
 Or: Becoming
 Four Religions

C. Writing

The writing program may be outlined sequentially as follows:

1. Word attack - meaning and use
2. Sentence attack - patterns, sequencing and variations
3. Organization and development - unity and coherence
4. Expression and style - clarity, color, quality

All English electives dealing with topical studies or literature include a writing component. In addition, courses specifically oriented to written expression are offered each phase.

It must be stressed that although this sequence represents a logical pattern of growth in writing from the most basic to the most sophisticated skills, there is at the same time a need for parallel development in each area. Therefore, instruction is highly individualized, and a student who shows a deficiency in understanding basic sentence patterning will be guided in such a way as to continue expanding organizational and stylistic skills while his or her most basic problems are being resolved. In point of fact, a stylistic or organizational insight may provide the key to overcoming a frequently made error in sentence patterning more effectively than a strictly grammatical approach.

The objective of the writing program is to bring all students to a level of proficiency in each of the four skills areas outlined above so that they may:

1. Adequately deal with written assignments in English and other academic areas.
2. Competently handle writing problems on college or job applications, and on qualifying or promotional examinations.
3. Appreciate and enjoy the process of written self expression as an intellectual and creative activity.

Sampling of courses offered:

Primary writing courses

Writing workshop
Creative writing
My story
Poetry

Newspaper - journalism
Short story writing
Correspondence

Secondary writing courses

All literature and topical studies courses.

D. Arts Workshop Program

The close relationship between language arts and all the creative arts must be recognized in its broadest sense. The importance of the inter-relationships between verbal and non-verbal communication is only beginning to be fully realized, but its impact is being felt not only in the arts, but through the media and in application in our daily lives.

Therefore, the arts workshop component of the program seeks to explore areas which promote the students ability to express him or herself in a variety of ways. These courses all have specific applicability to vocational fields, and also generally stretch the intellectual and creative potential of the students. As an end in itself, aside from occupational possibilities, the program is culturally enriching and provides direction for constructive use of leisure time. In addition, it is assumed that the sense of accomplishment realized in the program has a real effect on motivation and attitude in general.

We may thus expect that there is a positive transference which makes the success of the arts workshops program directly relevant to the success of the more traditional components of the language arts curriculum.

Sampling of course offerings:

Photography	Afro-american art
Filmmaking	Macrame
Film animation	Puppet theater
Drama workshop	Metropolitan Museum Workshops
Play production	

The four component strands outlined above are designed so as to allow for a program which explores the broadest spectrum of language arts experience. In addition to the specific skills and intellectual development inherent in this curriculum, it is hoped that a more far reaching objective may be attained. We hope that the student has become sensitive to, and aware of, the importance of language and that he or she will seek out and respond to language experiences, spoken and written, on an ongoing basis. Learning is, after all, a never ending process. It is our responsibility to provide the tools and motivation that will make that process most rewarding.

Below is outlined a sample two year curriculum. It is presented here to give an indication of what has been done, but it must also be viewed as indicating the potential for a dynamic and expanding curriculum which must, in order to be effective, change and grow according to the needs of the students and community.

Sample Two Year Curriculum in Elective English

Ninth Year - Fall

Phase I	Writing	2	Language Science I
	Literature	2	Writing workshop I
	Topical	1	Short story survey
	Arts workshop	1	Novel - <u>Childhood's End</u>
			Myths of Creation
			Macrame
Phase II	Writing	2	Language Science II
	Literature	2	Writing workshop II
	Topical	1	Novel - <u>Childhood's End</u>
	Arts workshop	1	One act plays
			Myths of Creation
			Macrame
Phase III	Writing	2	Writing workshop III
	Literature	2	Journalism
	Topical	1	Novel - <u>Johnny Got His Gun</u>
	Arts workshop	1	Black poetry
			Latin culture
			Macrame

		9	
Phase IV	Writing	2	Writing workshop IV Journalism II
	Literature	2	Novel - <u>Johnny Got His Gun</u> Black poetry II
	Topical	1	Latin culture
	Arts workshop	1	Afro-american art

Ninth year - Spring

Phase I	Writing	2	Newspaper Creative writing
	Literature	1	American poetry
	Topical	2	Television Extra sensory perception
	Arts workshop	1	Met Museum project
Phase II	Writing	2	Newspaper Poetry
	Literature	2	African Lit. Biog. - <u>The Big Sea</u>
	Topical	1	Television
	Arts workshop	1	Met Museum project
Phase III	Writing	2	Newspaper Poetry
	Literature	2	Biog. - <u>The Big Sea</u>
	Topical	1	Schools I
	Arts workshop	1	Met Museum project
Phase IV	Writing	2	Newspaper Playwriting
	Literature	1	Novel - <u>Cane</u>
	Topical	1	Schools II
	Arts workshop	2	Met Museum project Play production

Tenth Year - Fall

Phase I	Writing	1	Playwriting
	Literature	3	Novel - <u>Down These Mean Streets</u> Stories - Science Fiction Biography - <u>I Know Why the Caged Bird Sings</u>
	Topical	1	On Becoming
	Arts workshop	1	Photography
Phase II	Writing	2	Playwriting II Poetry
	Literature	2	Novel - <u>Childhood's End</u> Biography - <u>Manchild</u>
	Topical	1	Advertising
	Arts workshop	1	Photography

Phase III	Writing	2	Poetry workshop
			Newspaper
	Literature	2	African Literature
			Biography - <u>Manchild</u>
	Topical	2	Voices from <u>Prison</u>
	Arts workshop	1	Play Production
Phase IV	Writing	2	Poetry workshop
			Autobiography - <u>My Story</u>
	Literature	2	Non-fiction - <u>Soledad Brother</u>
			Biography - <u>Manchild</u>
	Topical	1	Communication
	Arts workshop	1	Play Production
<u>Tenth Year - Spring</u>			
Phase I	Writing	2	Autobiography - <u>My Story</u>
			Newspaper
	Literature	2	Biography - <u>Black Boy</u>
			Novel - <u>The Brave African</u>
	Topical	1	<u>Huntress</u>
	Arts workshop	2	Art of Film
			Metropolitan Museum
			Puppet Theater
Phase II	Writing	2	Newspaper
			Short Story
	Literature	2	Biography - <u>Black Boy</u>
			Novel - <u>Native Son</u>
	Topical	1	Four Religions
	Arts workshop	2	Metropolitan Museum
			Puppet Theater
Phase III	Writing	2	Short Story
			Newspaper
	Literature	2	Novel - <u>Native Son</u>
			Stories - <u>Black Folk Tales</u>
	Topical	1	Four Religions
	Arts workshop	2	Metropolitan Museum
			Animated films
Phase IV	Writing	2	Newspaper
			Correspondence
	Literature	2	Drama - Plays from Black Theater
			Non-fiction - Essays - Black
	Topical	1	and Latin
	Arts workshop	2	Elections '72
			Animated Films

The Reading Curriculum *

The standardized test results for students entering the Cluster Program in grade 9 in 1971 range from 1.5 to 7.9. 60% of the students scored between the 4th and 6th grade reading level, 20% between 1 and 4 and 20% between 6 and 8.

The majority of students scored markedly higher on the comprehension half of the test (California, Level 3) than on the vocabulary section. Post test analysis with students show that about half of the comprehension errors stem from vocabulary deficiencies rather than an inability to answer the question. The tests do use vocabulary that is culturally foreign to the students (e.g. chariot, gown, alluvial, etc.). Even so, the extreme lack of vocabulary acquisition abilities of this group seems to be their severest reading problem and is therefore a primary emphasis in reading skills courses.

The program concentrates on the remediation of skills in three areas: vocabulary, basic comprehension and critical thinking. For each of these three areas there has been assembled a vast array of remedial materials sequenced from levels 1 through 10.

Each student is carefully diagnosed in the three areas and a reading profile form is prepared for each student. In addition to the standardized tests this diagnosis includes graded comprehension passages, oral reading and a phonics inventory based on the Gates-McKillop formula.

Student and teacher discuss the student's diagnosed problems, preview the appropriate remedial materials and select the ones that appeal to the student. The variety of materials is large enough so that if a student does not respond to one approach there are different but parallel materials available to remediate the specific deficiency. A definite goal for each 4 week reading course is agreed on by student and teacher and is written up in contract form. At the end of each 4 week course, progress is evaluated and annotated on the profile form.

In addition to the three basic sequences, each reading lab has an outside reading component. The aims are (1) to stimulate a genuine interest in books and (2) to foster the habit of continual reading. To these ends the classroom library is stocked with books that students want to read and will read rather than books their teachers wish they would read.

Because of Cluster's phasing system and each student's ability to choose his own courses, a student may be taking as many as 3 reading skills courses concurrently or he may take a phase completely off from reading. The profile form tells the student and teacher where in each of the 3 areas the student should resume. Students are counselled to enroll in one or more reading skills courses each phase until he or she can read fluently and with understanding, materials graded on a 7th grade level.

* M. Schwartz, M. Taylor and C. Doerner, Op. Cit.

Word Analysis
 roots, prefixes
 and suffixes
 level 3-10

Teacher made unit
 Basic Reading Skill, worksheets
 Barnett Loft - Working with sounds
 Amsco - Vocabulary for the College
 bound student
 Developing your Vocabulary Witty and
 Grothberg

Synonym and Antonym
 and Homonym concepts

Teacher made series

Context Clues

Vocabulary Expansion
 levels 3-9

Tach-x workbooks C-1, E, F, EA, DA
 and Word Clues series
 All English and Reading Electives

Sentence meaning and analysis
 level 4-10

Basic Reading Skills worksheets
 Grady, Patterns and Practice Books
 9 and 10
 English 2200, 2600 and 3200

Isolated comprehension
 skills - main idea, inference,
 sequence, direct fact

Teacher made sequence for each skill
 levels 3-6
 Scholastic Skills Workbooks;
 Countdown and Sprint; levels 3-5
 Basic Reading Skills worksheets
 level 6-8

Reading with comprehension
 Questions

Scholastic's Action Series stories
 and plays on levels 2-3
 Reading for Understanding
 (SRA type kit) levels 3-6
 Scholastic Anthologies; Wide World
 Spotlight and Dimensions levels 4-8
 Scope Magazine levels 4-8
 Selections from the Black levels 6-8

Speed and Efficiency

Controlled Readers - filmstrips and
 workbooks
 Reading levels 3-7
 Speed from 80 words per min. to
 600 wpm

After one year in the Cluster Program, many students have completed the lower level skills sequences and no longer require this close diagnostic and remedial attention. Therefore, reading courses in the 10th grade tend to emphasize upper level vocabulary, comprehension and critical thinking abilities. There are always at least 2 lower level reading courses available to any 10th year student who might want review, additional drill or still be in need of remediation in decoding and lower level comprehension skills.

A description of the skills sequence in the 3 areas follows. After that is a chart showing which courses cover which skills. It should be noticed that students are grouped homogeneously only for lower level phonics; in all other skills they enter the sequence at their level and proceed at their own pace.

1. Decoding words; levels 1-6.
Basic phonics from the sound symbol relationship of short vowels to the syllabification and pronunciation of long words.
2. Spelling; levels 1-8.
3. Word recognition and discrimination; levels 1-8.
Developing the habit of noticing interior and end syllables of long words (or the contours of short words). Tachistoscopic techniques used for this at all levels.
4. Word analysis as a work attack skill; levels 1-10.
 - a. Inflected endings and how they change word class.
Developing the ability to tell what slot in a sentence various forms of a word can be used in.
 - b. Identification of roots, prefixes and suffixes.
Developing the ability to add or subtract different prefixes and suffixes and the instinct for sensing word families so each variant of a root isn't seen as a new word.
5. Synonym, Antonym and Homonym concepts; levels 2-10.
6. Context Clues; levels 2-10.
Developing the habit of using different types of clues to make good guesses at a word's meaning.
7. Vocabulary expansion; levels 1-10.

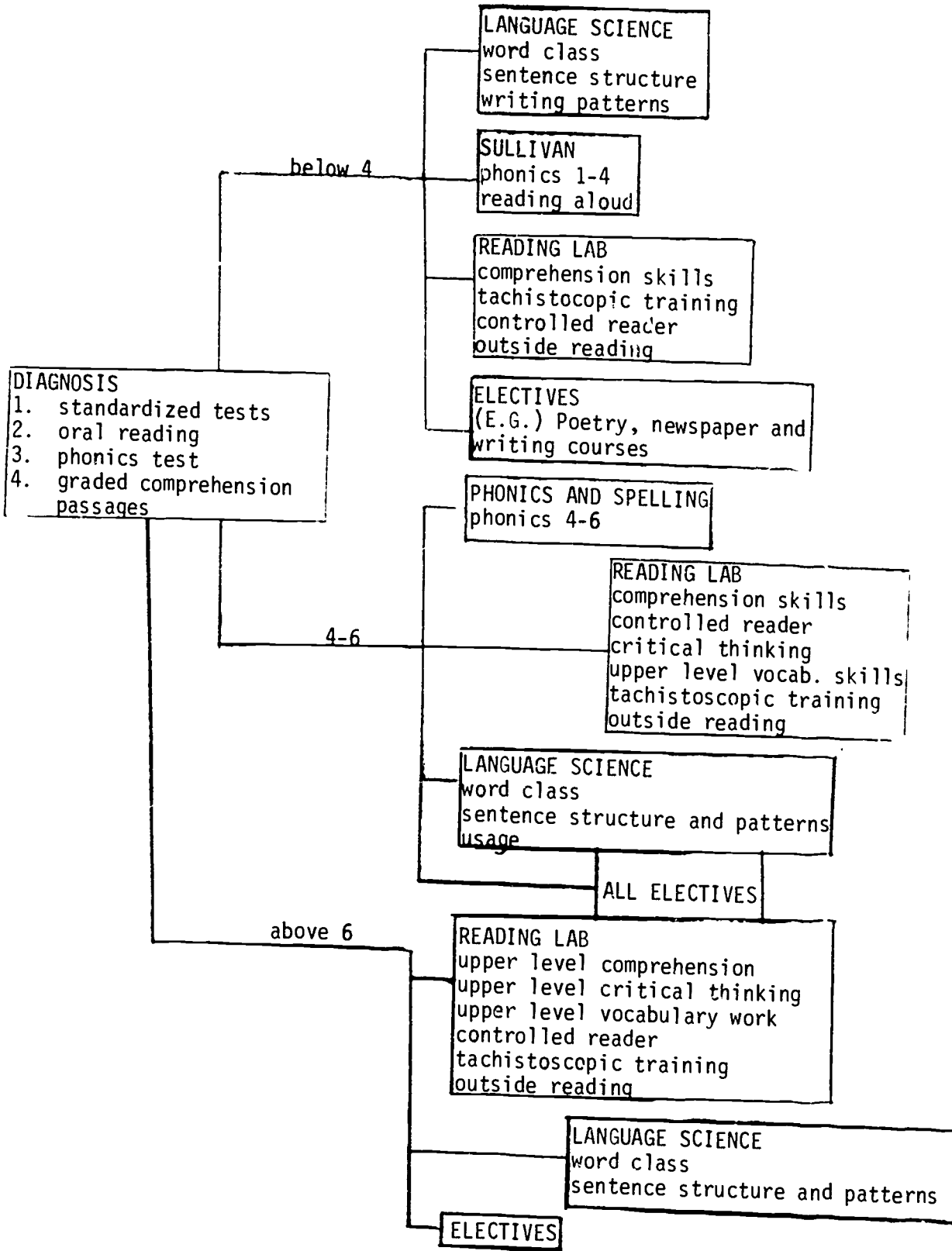
B. COMPREHENSION SKILLS SEQUENCE

1. Sentence comprehension and analysis; levels 2-9.
Who is doing what to whom in sentences ranging from the simple to the very complex.
2. Drawing inferences; levels 3-10.
3. Recognizing the common patterns of comprehension questions; levels 2-6.
Developing a sense of the appropriate responses to direct fact, main idea, inference and sequence questions.
4. Recognizing basic paragraph patterns; levels 6-8.
Learning to distinguish between paragraphs of chronological narrative, cause-effect, statement-evidence and contrast.
5. Concepts of outlining and summarizing; levels 6-8.
6. Increasing speed/efficiency quotient by using preview techniques and the controlled reader; levels 3-9.

C. CRITICAL THINKING SEQUENCE

1. Developing habits of personal involvement with and reaction to stories and topical readings. All levels.
2. Evaluating evidence-distinguishing relevance. Levels 5-8.
3. Distinguishing fact from opinion, recognizing logical inconsistencies and other propaganda techniques. Levels 4-8.
4. Recognizing and articulating 2 sides of an issue. Levels 5-8.
5. Developing the ability to recognize and verbalize values and feelings in reading matter. Levels 3-10.

(See following page for chart showing which courses cover which skills.)



DIAGNOSIS
 1. standardized tests
 2. oral reading
 3. phonics test
 4. graded comprehension passages

LANGUAGE SCIENCE
 word class
 sentence structure
 writing patterns

SULLIVAN
 phonics 1-4
 reading aloud

READING LAB
 comprehension skills
 tachistoscopic training
 controlled reader
 outside reading

ELECTIVES
 (E.G.) Poetry, newspaper and writing courses

PHONICS AND SPELLING
 phonics 4-6

READING LAB
 comprehension skills
 controlled reader
 critical thinking
 upper level vocab. skills
 tachistoscopic training
 outside reading

LANGUAGE SCIENCE
 word class
 sentence structure and patterns
 usage

ALL ELECTIVES

READING LAB
 upper level comprehension
 upper level critical thinking
 upper level vocabulary work
 controlled reader
 tachistoscopic training
 outside reading

LANGUAGE SCIENCE
 word class
 sentence structure and patterns

ELECTIVES

D. MATERIALS AND THEIR USE

The reading skills program uses many published materials which appear on the list below. All of these materials except the controlled reader program have needed extensive adapting and reinforcing. All skills areas, therefore, comprise a carefully sequenced combination of published materials (texts and worksheets) and teacher created materials and assignments. Progress checks or tests occur frequently and if further work is indicated by these informal evaluations a student will be re-routed through parallel material.

Because of the individualized nature of instruction the materials are set up in shelves and filing cabinets labeled for maximum student accessibility. His job is to locate his materials, keep them in order in his folder and keep track of his own progress.

Decoding skills: levels 1-6	Sullivan Reading Program supplemented by teacher made worksheets Phonics games (Take, Lotto, etc.) Continental Press phonics and work analysis worksheets Scott Foresman Basic Reading Skills worksheets EDL Aud-X workbook Barnett Loft Series, Working With Sounds
<hr/>	
Spelling levels 4-8	Phonically and subject oriented spelling units self taught in student "team teaching"
<hr/>	
Word recognition and discrimination levels 1-4 levels 4-5 levels 6-8	Tach-x workbook AA Looking at Words C-1 (These are tachistoscopic techniques reinforced by work use exercises Looking at Words E and F Tach-X workbooks DA and EA Work Clues Gand-H (tach. approach plus dictionary and context skills)
<hr/>	
Word analysis: word class and function in sentence levels 3-10	Teacher made series English 2200, 2600 and 3200 (programmed grammar texts) Ananse Tales

Word Analysis roots, prefixes and suffixes level 3-10	Teacher made unit Basic Reading Skills worksheets Barnett Loft - Working with sounds Amsco - Vocabulary for the College bound student Developing your Vocabulary Witty and Grothberg
Synonym and Antonym and Homonym concepts	Teacher made series
Context Clues Vocabulary Expansion levels 3-9	Tach-x workbooks C-1, E, F, EA, DA and Word Clues series All English and Reading Electives
Sentence meaning and analysis levels 4-10	Basic Reading Skills worksheets Grady, Patterns and Practice Books 9 and 10 English 2200, 2600 and 3200
Isolated comprehension skills - main idea, inference, sequence, direct fact	Teacher made sequence for each skill levels 3-6 Scholastic Skills Workbooks; Countdown and Sprint; levels 3-5 Basic Reading Skills worksheets levels 6-8
Reading with comprehension Questions	Scholastic's Action Series stories and plays on levels 2-3 Reading for Understanding (SRA type kit) levels 3-6 Scholastic Anthologies; Wide World Spotlight and Dimensions levels 4-8 Scope Magazine levels 4-8 Selections from the Black levels 6-8
Speed and Efficiency	Controlled Readers - filmstrips and workbooks reading levels 3-7 speed from 80 words per min. to 600 wpm

Critical thinking

Specific skills

fact-opinion
 evaluating evidence
 propaganda technique
 arguing skills

Teacher made worksheets for each
 skill

Basic Reading Skills worksheets
 Daily Newspapers
 Literature and topical courses

Personal involvement with
reading material

Classroom library

Malcolm X, Down These Mean Streets,
Godfather, Love Story, Up the Down
Staircase, etc., etc.

Anthologies; Black Woman, Way It Is
 Crossroads Series

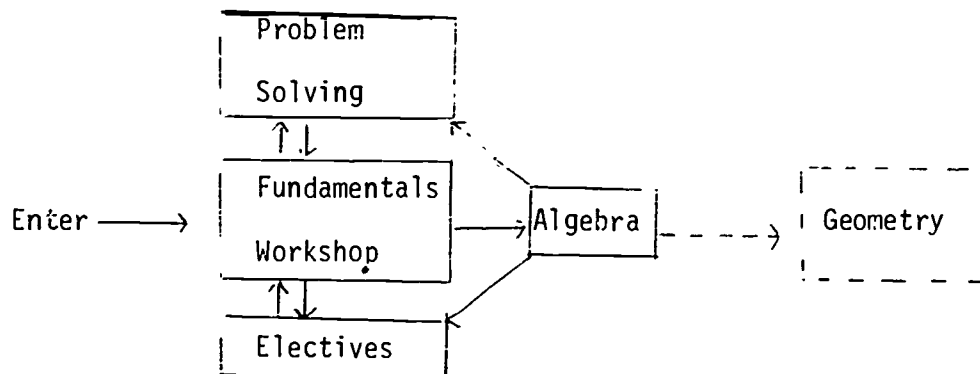
Literature and topical courses

The Mathematics Curriculum*

The mathematics program for the Cluster Program at Benjamin Franklin High School has been designed with the following objectives in mind:

- I. For all students:
 1. The student will be able to compute, with 75% accuracy, with the four operations of addition, subtraction, multiplication and division in whole numbers, fractions and decimals. **
 2. The student will be able to solve simple one and two-step word problems.
- II. For non-college bound students:
 1. The student will be able to learn skills in a variety of mathematical areas (by taking the elective courses).
- III. For college-bound students:
 1. The student will be able to pass the city-wide or Regents exam on Algebra after completing work equivalent to algebra 9MC or 9M2.

The program is divided into four components, as this schematic indicates:



A. Fundamentals Component:

All students enter the program by taking a fundamental workshop. The workshop is designed to build and maintain fundamental arithmetic skills. The mathematics covered in the workshop include: place value and the written form of numbers; whole number addition, subtraction, multiplication and division; a Cuisenaire Rod unit on fractions; fractional addition, subtraction, multiplication and division; and per cents.

*A. Odden, M. Taylor and C. Doerner, Op. Cit.

** This objective of 75% was established by staff members after this evaluation study was designed and was not made a part of this evaluation as contracted by TLRC. See page 33 for the evaluation objectives of this study.

A student can take the algebra course only if he has completed all the math in the workshop. The workshops can be taken concurrently with the electives and the problem solving course, but not with the algebra.

The methodology in the workshop is characterized by individualized programmed instruction. Each student is individually diagnosed and a prescribed course of study is developed to build the math skills lacking. Frequent evaluation also occurs. The content and style of the workshops meet the individual needs and preferences of the students.

Materials used in the workshop include: an SRA Computational Skills Development Kit; teacher prepared worksheets on whole numbers, fractions, decimals and percents; four textbooks with spiralled assignments, correlated with the classroom work, and used for homework; an electronic calculator used with whole numbers and decimals; a tape recorder used for multiplication tables and number names; and Cuisenaire Rods used for fractions.

B. Problem Solving:

The problem solving course is required of all students sometime during their first year in the program. This course covers the solution of a variety of simple one and two step work problems. It is a self-contained unit, requiring only knowledge of whole number addition, subtraction and multiplication as pre-required knowledge. It can, therefore, be taken concurrently with any other solving simple word problems and is useful especially for civil service and general standardized testing.

C. Electives:

The electives cover a wide variety of mathematical topics and are predominantly activity oriented courses. Most electives use manipulative materials in order to give concrete mathematical experiences which are rich in abstract mathematical content. The psychology of Jean Piaget and the work of Zoltan R. Dienes have been influential in the development of the elective courses. The manipulative materials are used with specially prepared sequenced worksheets which help guide the student in the various activities. One or two electives are offered each phase and can be taken concurrently with any other course in the program. The following is a list of some electives that have been or will be given in the program; the list is somewhat arbitrary and could (and should) change with student needs and teacher interests:

1. Different Number Bases - worksheets prepared for use with Dienes Multibase Arithmetic Blocks (available from Herder and Herder, New York City).
2. Coordinate Graphing I - introductory course in graphing on a coordinate plane. Graphs include lines, pictures, animals and words.
3. Coordinate Graphing II - introductory course on the algebra of the line; table of values, slope, x, y intercept, common solution of two linear quotations.
4. Abstract Algebra - specially developed course on the concept of an abstract operation, e.g., $axb=axb + 2$.
5. Set Theory - activities and worksheets prepared for use with Attribute Blocks and People Pieces (available from Webster Division, McGraw Hill).
6. Equation Solving - introduction to solving equations.

7. Graphs on a Number Line - introductory activities in graphing on a number line with both positive and negative numbers.
8. Probability - empirically oriented course on basic concepts in probability; activities involve the use of dice, cards, coins and colored cubes.
9. Area and Perimeter - worksheets prepared for use with unit squares, triangles and dot paper.
10. Volume - worksheets prepared for use with Colored Cubes (available from Webster Division, McGraw Hill).
11. Geometric Construction - various constructions with compass and straight edge including not only the standard ones but also the trefoil, quatrafoil, Yang-Ying, Flower design, Gothic and Muslim arches.
12. Polygon Classification - learning the names of, classifying and subclassifying various polygons; for use with geoboards (available from the Cuisenaire Company of America, New Rochelle, New York) and pattern blocks (available from Webster Division, McGraw Hill).
13. Triangles and Trigonometry
14. Statistics and Graphs
15. Business Mathematics - a) salary and taxes
b) banking, interest
c) discount buying

D. Algebra:

The algebra component, the final component of the program, is available only to those students who have completed all materials in the workshops and who, therefore, have competencies in the basic arithmetic skills. The methodology in the algebra class is characterized by individualized instruction, small group instruction and independent study. Each student sets his own pace for learning the material. The students work in regular algebra texts with spiralled assignments as guides. Depending on the amount of work completed, credit is given for:

algebra 9MA - regular 1 term course = about four phases
 algebra 9M1 - regular 1 term course = about four phases
 algebra 9M2 - regular 1 term course = about four phases
 algebra 9Mc - regular 1 term course = about four phases

Only the better students will proceed at a rate sufficient to earn credit for algebra 9M1 and 9M2. When work equivalent to the terminal course of 9M2 or 9Mc is completed, the student will be prepared to take the regular citywide or Regents test for ninth year mathematics (Algebra).

Course Offerings

The following is a tentative listing of the courses offered in the two year sequence (the number of workshops and algebra courses offered each phase clearly depends on the achievement and wants of the students and could increase or decrease each year).

NINTH YEARFall Term

Phase I

Workshops: 5
 Electives: 1 - Number Bases

Phase II

Workshops: 4
 Electives: 2 - Graphing I
 Abstract Algebra

Phase III

Workshops: 4
 Electives: 1 - Set Theory
 Problem Solving: 1

Phase IV

Workshops: 4
 Problem Solving: 1
 Electives: 1 - Graphing II

Spring Term

Phase V

Workshops: 3
 Algebra: 1
 Problem Solving: 1
 Electives: 1 - Equation Solving

Phase VI

Workshops: 3
 Algebra: 1
 Problem Solving: 1
 Electives: 1 - Probability

Phase VII

Workshops: 3
 Algebra: 1
 Electives: 2 - Equation Solving
 Business Mathematics: salary and taxes

Phase VIII

Workshops: 3
 Algebra: 1
 Problem Solving: 1
 Electives: 1 - Triangles and Trigonometry

TENTH YEARFall Term

Phase I

Workshops: 4
Algebra: 1
Electives: 1 - Area and Perimeter

Phase II

Workshops: 3
Algebra: 2
Electives: 1 - Geometric Constructions

Phase III

Workshops: 3
Algebra: 2
Electives: 1 - Polygon Classification

Phase IV

Workshops: 2
Algebra: 3
Electives: 1 - Problem Solving

Spring Term

Phase V

Workshops: 2
Algebra: 3
Electives: 1 - Volume

Phase VI

Workshops: 2
Algebra: 3
Electives: 1 - Statistics and Graphs

Phase VII

Workshops: 2
Algebra: 3
Electives: 1 - Business Mathematics: salary and taxes

Phase VIII

Workshops: 2
Algebra: 3
Electives: 1 - Business Mathematics: discount buying

The Science Curriculum *

A. Philosophy and Objectives

The life span of most scientific information is about seven years, hence the teaching of scientific dogmas often leads to the learning of inaccurate information by students. When students discover that what they learned in class is less than the whole truth they may become disillusioned and disappointed in science education.

It should also be recognized that teaching science as dogmatic information is in a sense not science at all. It is really a course in the history of scientific discoveries. Science itself is inquiry - asking questions of the environment, gathering data, and verification of hypotheses. The essence of instruction in science is direct involvement by students in the inquiry process of science. The mode and objectives for instruction in the inquiry classroom are significantly different from more dogmatic history of science instruction in the more conventional classroom.

Science instruction is infinitely more than "chalk and talk", and teacher demonstrations. It is the involvement with materials and tasks, with the intent that learning problems will be identified by students and solutions sought for. The experiential approach to learning science incorporates the student's milieu as the curriculum matrix from which the student may choose to study. There are no content areas that are not legitimate for student inquiry. The fact that a question is raised makes it a part of the milieu and legitimate content for the student to pursue.

We have also learned from the work of both learning and developmental psychologists that individuals have particular instructional needs that differ from the needs of the group-at-large. The individual's needs are governed by his capabilities, past learning experiences, and interests. Our own experience in the classroom has instructed us that a single instructional approach is pedagogically unsound when individual learning needs are concerned. Individual learning needs are characteristic of all classrooms and need to be dealt with in 1972. Our program in science has adopted a more heuristic than prescriptive approach to meet with the need to effectively individualize instruction. From what the literature tells us (Bruner, J.; Piaget, J.) and our own experience, the students conceptual development is facilitated best when he participates in the governance of his own learning experiences; which means the student learns to pace his personal learning by gaining control over the use of his learning environment in such a way that allows him to identify problems and to pursue their solution.

* L. Sherman, M. Taylor and C. Doerner, Op. Cit.

I. General Goals

The general intent of the science program is to:

1. Provide a structure for students to receive fundamental experience in science.
2. Offer students a curriculum selection that will engage them in the inquiry processes of science.
3. Offer students curriculum choice that will involve them in practice and ultimate development of skills in problem-solving related to scientific inquiry.
4. Offer students curriculum choice that will develop understanding (based on knowledge) of the processes of science.
5. Help students gain greater control over governance of their own learning.

II. Specific Goals

More specifically the intent of the science program is to facilitate the development of skills associated with helping the student in his understanding and executing the scientific inquiry. The skills that are to be developed are of three general types:

1. Observational - clearly describing (verbal/written, diagramatic) what's there.
2. Manipulative - technically learning to operate equipment.
3. Conceptual - knowing when to use what equipment; how to organize and interpret information gathered by observation and manipulation.

Definition: equipment is broken down into two sub-categories;

- a) measuring devices - e.g., thermometer, rulers, barometer, balance, graduated cylinder.
- b) all other materials - e.g., used to perform a task/exercise, construct an experiment, or conduct an investigation.

B. The Program

The program requires that students take three basic and three electives each year. At the completion of the program the student will have taken a minimum of twelve courses in science, six of which are considered basic. Exceptional students may take only three basic courses and nine electives as a minimum program.

The science program consists of courses that are of three types: basics, practice electives, and integrative electives.

1. Basic Courses:

Basic courses stress the development of skills that are fundamental to developing student abilities that help him in construction of scientific knowledge and increasing this awareness of the processes of scientific inquiry. These courses are offered in the 9th and 10th year. All students in the program are expected to take these courses. Especially

interested and gifted students may by-pass some of the basic courses for electives. This decision is jointly arrived at by the student, teacher, and guidance advisor. The content nature of these courses focuses primarily on measurement, instrumentation and estimation.

9th Year

Measurement
Statistics & Estimation
in science
Laboratory - instrumentation

10th Year

Measurement
Statistics & Estimation
in science
Laboratory - instrumentation

Instruction in skills development focuses on frequent practice experiences for students. Individual differences suggest individual learning needs. It is left to the teacher to diagnose in situ what kinds of practices different students need. At the end of the course the teacher assesses the level of skill development based on student performance with materials he has used. The criteria are set for individuals via mutual contract between the student and the teacher.

II. Practice Elective Courses:

The bulk of the courses offered in the science program are organized practice environments. The goals of these courses are three fold:

1. To extend the opportunity for students to practice skills learned in basics.
2. To integrate skills students have attained, (and concepts they have learned), with new concepts.
3. To stress inquiry processes related to questioning; multiple trials, and verification.

The skills developed in the practice electives are conceptual, manipulative, and observational; the focus of the skills development is on observational and manipulative, designed to illuminate new concepts. The conceptual nature of the courses is suggested by the course title and organization. For the most part the number of concepts developed by each student in a course is a product of the interaction of student responses and teacher informal diagnosis. These courses are construed as electives, from which a student may choose a minimum of three per year. Below are courses that have been offered or planned in the 9th and 10th grade.

9th Year

Brave New World
Community Diseases
Cells
Thermodynamics I
Human Reproduction
Current Science
Genetics
Drugs - how to get rid of them
Ecosystems - web of life

10th Year

Blood
Urban Eco-crises
Photosynthesis
Science Learning Skills
Current Science
Adaptation
Habitats
Organs of the Body
Nutrition

9th Year

Organs
Light
Sound
Environmental studies

10th Year

Cells and Tissues
Chemistry of Solutions
Chemistry of Indicators
Chemical Reactions

III. Integrative Elective

A third type of course offered in the science program is the elective called science projects or independent study in science. This course seeks to integrate, through student initiated projects, skills and processes of scientific inquiry students have developed in other courses. The course emphasizes student identification of a project, for one or more phases, and the keeping of a daily log. The course can be used for advanced study, or for the making up of a basic course. The latter activity is engaged in by mutual planning of teacher and student. This course is offered all the time in both the 9th and 10th year.

The Social Studies Curriculum*

The social studies curriculum is based on three hypotheses about learning. They are that learning takes place best, quantitatively and qualitatively if,

1. Course content is directly related to the students' concerns.
2. Course content deals with the real social world.
3. Learning activities within the courses engage the students directly and actively in the learning process.

To discover the concerns of the students, we present to them a list of 70-80 possible courses of study. They select and rate those courses which most interest them. Then, we prepare courses to meet those interests. We also learn about their concerns through informal discussions, and use this information to help us prepare the courses.

In the past year we have offered about thirty different courses. Every phase we offer a few new courses; the most popular courses are repeated so as to meet student demand. At present, students have complete freedom of choice; there are no required courses. We believe that all areas are important. In addition, no single learning in social studies is prerequisite for another learning. Although many courses are related to each other in content, each is a self-contained unit, providing the students with the skills, knowledge, and activities needed to achieve the goals of the course.

A. Objectives**

The objectives of the curriculum are: knowledge, thinking abilities, data-processing abilities, human relations abilities, valuing, and social participation.

1. Knowledge

Knowledge about the real world and knowledge about the worthiness of personal and social judgments are basic objectives of our curriculum. The traditional and obvious sources of knowledge for the social studies are the social science disciplines. We use knowledge from the social sciences because of the needs of both students and society for powerful ideas, dependable information, and reliable methods of inquiry.

The knowledge component of the curriculum serves three more particular functions. First, it provides historical perspective. A sense of the past

* See R. Noble, M. Taylor and C. Doerner, Op.Cit.

** Adapted from the "social Studies Curriculum Guidelines", developed by the National Council for the Social Studies Task Force on Curriculum Guidelines. See Gary Manson, Gerald Marker, Anna Ochoa, and Jan Tucker, Social Education, Dec. 1971.

serves as a buffer against detachment and presentism - living just for today-- and thereby enables an individual to establish a cultural identity. Second, knowledge helps a person perceive patterns and systems in the environment. It is this ordering which makes the social universe, even with its increasing complexity, more nearly manageable. Third is the function of knowledge as the foundation of social participation. Without valid knowledge, participation in the affairs of society is ineffectual and irresponsible.

2. Thinking Abilities

Intellectual competencies, usually called thinking, serve several functions. They provide the prime path to knowledge. They also enable an individual to ask significant questions; they permit him to analyze conflicts; they enable him to solve problems; they enhance his decision-making power; and they support his effort to form and clarify values. Such thinking skills are of paramount importance in resolving social issues.

3. Data Processing Skills

Data processing skills encompasses competence to locate and compile information to present and interpret data, and to organize and assess sources. All these skills facilitate the growth of knowledge.

4. Human Relations Abilities

Another aspect of skill development concerns the competencies associated with social behavior. Effective interpersonal relations seem to depend on a sensitivity to the needs and interests of others, adequately developed communication skills, and the ability to cope with conflict and authority. In the classroom students have abundant opportunities to work out social relationships at the face-to-face level. Our students have experience in dealing with highly charged emotional and social conflicts, some of which can be resolved by rational means and others of which can not. In the process of conflict resolution, students undergo demands placed on them both as leaders and followers and learn to make contributions in both roles.

5. Valuing

Valuing must be considered, in part, as an intellectual operation. Social studies confronts complex questions rooted in conflicting attitudes and values. Therefore, it is neither desirable nor possible for us to establish a "value-free" situation. Our study of values is conducted in a free and open atmosphere. Students become experienced in discerning fact from opinion, objectivity and bias. Students learn to identify their own value assumptions along with those of others, and to project and evaluate consequences of one value stance or another. Valuing is thought of as a rational process whereby students are helped to clarify and strengthen their commitments.

6. Social Participation

Social participation means the application of knowledge, thinking, and commitment in the social arena. An avenue for social interaction and identification

builds an awareness of personal competency--awareness that one can make a contribution--an ingredient for a positive self-concept. Our program tries to develop young adults who will say: "I know what's going on, I'm part of it, and I'm doing something about it." Our involvement in the past has taken the form of observation or information seeking such as field trips, attending meetings, and interviews. In the future it may take the form of political campaigning, community service, or even responsible demonstrations.

B. Course Offerings and Guiding Questions

Our course offerings are designed to meet the above-stated objectives. Whereas the objectives are fairly stable, the course offerings are fluid, a function of the needs and concerns of our changing student population. The courses themselves can be organized into five broad subject areas. They are listed below, along with the organizing questions, or themes, that guide learning in those courses.

1. Awareness of Cultural Backgrounds

a) Courses:

Slavery
Civil Rights Movement
History of Harlem
Afro-American Art
Puerto Rican History and Culture

b) Guiding Questions:

1. How can I use evidence to come to conclusions about the past?
2. What were my forebears' origins, values, life styles, and feelings?
3. How would I have felt had I lived in my forebears' time and place?
4. How do I feel about the experiences of Blacks and Puerto Ricans?

2. Area Studies

a) Courses:

Life in Africa Today
War in Vietnam
Power
Know Your Rights
How Man Began

b) Guiding Questions:

1. How can I find, gather, organize, and present to the class evidence about areas that interest me?
2. What is a culture?
3. How do people live in other cultures?
4. How does my culture compare with the culture of others?
5. How can I approach questions that require me to make a value judgment?
6. What are my attitudes, beliefs, and values about other societies and about my own society?

3. Interpersonal Relationships

a) Courses:

Families
 Dating and Sex
 Marriage
 Child Development
 Conflict
 Rap Sessions

b) Guiding Questions

1. What are my own values, problems, experiences, and expectations?
2. How can I use various information-gathering techniques to answer my personal questions?
3. How should I behave in a class discussion?
4. To what extent should I accept and respect the ideas, feelings, and values of other people?
5. To what degree am I responsible for either defending or changing both my own values and the values of others?
6. How can experts and authorities help me resolve my problems in interpersonal relationships?
7. What are the various emotions that people experience?
8. How do I feel and behave in a conflict situation?
9. How can I best resolve conflicts in my life?

4. Urban Problem Solving

a) Courses:

Getting Rid of Crime
 Brownstones, Tenements and Projects
 Action for Better Buildings
 Schools Yesterday and Today
 No Money Down (Consumer Education)
 Getting Rid of Heroin
 Poverty and Welfare Law

b) Guiding Questions

1. How can urban problems be defined, analyzed, and solved?
2. To what extent do individuals and groups have the power to affect urban problems?
3. How do the problems of urban life affect me?
4. How do I go about making decisions about urban problems and acting on those decisions?
5. What are my feelings and values concerning urban problems?
6. How do our problems compare to those of other communities?
7. To what extent are my people (Black or Puerto Ricans) responsible for urban problems?
8. How do other people see me in the context of these problems?

5. Skill Development

a) Courses:

Getting a Job
Map Skills
Maps
Eyewitness News for New York
Newstime is Your Time
All Around the Town
Discovery '71

b) Guiding Questions

1. What is evidence and how can it best be used?
2. How can I deal with several answers to a problem?
3. How can I locate myself in time and space?
4. How can I learn what is happening currently in the community, city, country, world?
5. How can I travel from place to place in my environment?
6. How can items be classified?
7. How can I work effectively to solve simple problems?
8. How should I function in a new environment or new experience?
9. How should I relate with people in groups?

Chapter II

EVALUATION OBJECTIVES AND PROCEDURES

Evaluation Objectives *

1. To assess whether there is a significant increase during the school year in the ability of the student to function independently as compared to a control sample of Benjamin Franklin High School students.
2. To assess whether 80% of the students improve one or more grade levels, 30% improve two or more grade levels and 20% improve three or more grade levels on standardized achievement tests in mathematics and reading.
3. To assess whether the attendance rates of the Cluster Program enrollees is 15% higher than the average of the rest of the student body.
4. To assess whether the lower student-teacher ratio results in increased service to students which are recognized by 50% of the Cluster enrollees.
5. To assess whether the innovative elements in the Cluster Program have been recognized and utilized by the staff at Benjamin Franklin High School.
6. To assess the cost effectiveness of the Program.
7. To determine the extent to which the Program has been implemented according to plan.

Evaluation Procedures

1. Samples and populations

For student interviews and questionnaire data all students in the Cluster Program present on the days of testing served as subjects. (N ranged from 129 to 141). In addition, the group of 100 9th grade students who were eligible for and applied for the program but were not included because of space limitations were used a control group who, it was assumed, were similar to Cluster students at the beginning of the school year. On the days of testing, the number of control subjects present was very small. From an initial N. of 32, 4 follow up visits increased the N. to 55.

For achievement data, all students in the Cluster Program who took the Metropolitan Achievement Test and/or the California Achievement Test in October, February, March and May were included in this study (N ranged from 177 to 255).

For absenteeism data available, school records for all 250 Cluster students were screened and compared with absentee rates for the high school for each of six different months: September, October, November, December, February and March.

* The evaluation objectives are based on the offered program funding proposal for 1971-72.

2. Major Variables

a. Independence of Students

In order to assess whether the Cluster Program was achieving its objective of helping students to function independently of highly structured classes a number of measures were employed. Two questions were asked of students in both the Cluster Program and the regular school programs about what they would do should they face difficult school problems. We were interested in whether the Cluster students would solicit help from their immediate classroom teacher where they were having problems or whether they would remain dependent on friends, favorite teachers and others. It was reasoned that if the Cluster Program was having its desired effects, more Cluster students than control students in the regular school program, would approach their teachers if they were having problems.

1. If you had a problem with one of your daily assignments for a class at school, who is the first person that you would go to see about it?
 - a. Someone else
 - b. No one
 - c. A counselor
 - d. My favorite teacher
 - e. The teacher who has the class
 - f. My parents
 - g. A classmate who is good in that class
 - h. A close friend
 - No response

2. If you had a class in which ALL of the work seemed very hard for you, who is the first person that you would go to for help?
 - a. Someone else
 - b. No one
 - c. A counselor
 - d. My favorite teacher
 - e. The teacher who has that class
 - f. My parents
 - g. A classmate who is good in that class
 - h. A close friend
 - No response

It was also reasoned that the Cluster students would be more likely than regular high school students to indicate that they had recently talked to their teachers about their school work. Put another way it was believed that as of November of the school year more control students would state in response to the following question that they have not talked to their teachers about their work this year than would Cluster students.

3. When is the last time that you talked to one of your teachers about your school work?

On the other hand we believed that if the Cluster Program was having its desired effects both the regular high school students and the Cluster students would equally value the opportunity to talk with their teachers.

4. If there were more opportunities for you to talk to your teachers would you talk to them about your school work more often than you do now?
 - a. Definitely not
 - b. Probably not
 - c. Not sure either way
 - d. Yes, probably
 - e. Yes, definitely
- No response

It was also assumed that there would be no difference in responses to the following questions between the Cluster and control groups.

5. In general, would you say that you get along well with your teachers? (response possibilities ranged from definitely not to definitely yes.)
6. In general, would you say that the teachers that you have are interested in how well you do in school? (response possibilities ranged from definitely not to definitely yes)
7. How important are the grades you get in school? (response possibilities ranged from "Grades do not matter" to "they are very important".)
8. If you were free to go as far as you wanted to in school, how far would you go?

In addition, thirty-seven students were questioned in interviews after classes about their awareness of the resources of the Cluster Program.

b. Self-Concept of Academic Ability

In other words, it was assumed that Cluster students would initiate and make contact with their teachers more than regular students but that such differences would not be attributable to differences in the desires of students for such contact.

In addition it was also reasoned that if the Cluster Program was having its desired effects of creating feelings of independence in scholastic tasks such efforts would show up on student responses to questions about their ability to learn and perform in classroom activities. The following self-concept of academic ability questions were employed:

9. Please tell us about how you feel about the kind of work you do in class.
- My work is much below average
 - My work is below average
 - My work is average
 - My work is good
 - My work is excellent
 - No response
10. What kind of grades do you think you are capable of getting?
- Mostly 65% and lower
 - 65% - 75%
 - 70% - 75%
 - 75% - 80%
 - 80% - 90%
 - 90% - 100%
 - No response

c. Faculty perceptions of the Cluster Program were obtained by administering to 12 teachers in the high school the following questions:

- To what extent have the curricular materials which have been developed in the Cluster Program been helpful to you as a teacher at BFHS?
- Do you feel that there has been adequate communication between the Cluster staff and the rest of the High School staff?
- If the Cluster Program were expanded, would you want to participate?

In addition to the above interview questions, persons making on-site visits were encouraged to be unobtrusively sensitive to the adoption of Cluster materials and ideas among the non-Cluster staff.

d. Achievement Data. The Metropolitan Achievement Test, Forms Am, Bm and Cm were used to assess reading. The California Achievement Test was used to assess mathematics.

3. Analyses

The major forms of analysis involved t tests for differences in proportions, uncorrelated data, alpha set at the .05 level, and simple descriptive statistics.

Chapter III

FINDINGS

The first section of this chapter presents findings relevant to the effects of the Cluster Program on student abilities to function independently in scholastic situations, student achievements in reading and mathematics, and student attendance rates. In the second section, data is examined concerning the extent to which innovative elements in the Cluster Program are recognized and utilized by other teachers in the high school and the extent to which students in the Cluster Program recognize the added services available to them. The third section includes information pertaining to the costs of the Cluster Program and the extent to which the program has been implemented according to plan. The fourth and final section presents findings about attitudes held by staff and students toward the Cluster Program experience at Benjamin Franklin High School.

A. Student Outcomes

1. Student Abilities to Function Independently

The data presented in Table 1 below is in accord with one of the major hypotheses and objectives of the Cluster Program; i.e. that Cluster students would be more likely to approach their teachers when they experienced scholastic problems than would control students in the regular high school program (who would be more likely to turn to friends, other staff, parents or no one). The data in Table 1 also shows that 52% of the control high school students (as of November of the school year) had not as yet talked to one of their teachers about their school work as compared with only 29% of the Cluster students. This data pattern in Table 1 is clearly in accord with one of the important assumptions of the Cluster Program - that the Cluster Program causes students to look to and make contact with the teacher in whose classes they were having trouble. Restated, the data indicates a greater tendency for Cluster students to make use of immediate teaching resources and not withdraw from the situation than for control high school students.

Table 1

Student Contact with Teachers

Q. If you had a problem with one of your daily assignments for a class at school, who is the first person that you would go to see about it?					
Response	N	Cluster %	Reg. High S. Students		
			N	%	
a. The teacher who has the class	59	44%	4	7%	*
b. Others: OR no one Counselors, parents, administrators, friends, etc.	66	50	50	91	
	8	6	1	2	
Totals:	133	100%	55	100%	
c. No response					
Q. If you had a class in which ALL of the work seemed very hard for you, who is the first person that you would go to for help?					
a. The teacher who has the class	56	42%	3	5%	*
b. Others: Counselors, parents, administrators, friends, etc.	71	53	51	93	
c. No response	6	5	1	2	
Totals:	133	100%	55	100%	
Q. When was the last time you talked to one of your teachers about your school work?					
Response					
a. I haven't talked to a teacher about my work this year (as of Nov.)	39	29%	29	52%	*
b. 2 have talked to a teacher about my work	92	71	25	48	
c. No response	2		1		
Totals:	133	100%	55	100%	

* Sig. Dif. in proportions (p. < .05 level) t test for difference in proportion, independent sample data.

The important question in light of the above data is whether such differences can be attributed to differences in motivations and skills of the students in the Cluster and regular high school programs sampled. Even though the basis for assignment to our control and Cluster groups provided for statistical control, it was decided to do a double check by ascertaining if there were differences in whether Cluster and regular students would make contact with their teachers if the opportunity was available. It was hypothesized that there would be no difference. As shown in Table 2, there were no significant differences. Restated the data in Table 1 indicates differences in teacher-student contact between control and program students, while the data in Table 2 indicates that if control students were given the opportunity there would be no differences.

Table 2

Student Desires for Contact with Teachers

Q. If there were more opportunities for you to talk to your teachers would you talk to them about your school work more often than you do now?

Response	Cluster		Control	
	N	%	N	%
a. Definitely not.	8	6%	1	2%
b. Probably not.	13	10	4	7
c. Not sure either way.	14	10	4	7
d. Yes, probably.	73	55	32	58
e. Yes, definitely.	20	15	13	23
f. No response.	5	4	1	2
Totals	133	100%	55	99%

No significant difference in response patterns (.05 level)

If the Cluster Program is having its desired effect of producing a functional independence in scholastic tasks it was also reasoned that not only would students initiate and make contact with teachers, they would also feel more competent as learners. The data presented in Table 3 clearly is in accord with the assumption that the Cluster Program affects higher self-concepts of learning ability among students than does the regular school program. Sixty-three percent of the Cluster students indicated that they were able to do above average to excellent school work as contrasted with only 47% of the control high school students. Forty-seven percent of the Cluster students indicated they were capable of achieving at the 80% or higher level in classes as compared with only 23% of the regular high school students.

Table 3
Self-Concept of Academic Ability

Questions		Cluster Control			
Response	N	%	N	%	
Q. Please tell us about how you feel about the kind of work you do in class.					
Below average to poor	19	15%	12	22%	
Average	27	20	16	29	
Above average to excellent	84	63	26	47	*
No response	3	2	1	1	
Totals:	133	100%	55	99%	
Q. What kinds of grades do you think you are capable of getting?					
Responses:					
70% or lower	2	2%	12	22%	
70% - 80%	68	51	30	54	
80% or higher	63	47	13	23	*
Totals:	133	100%	55	99%	

*Significant difference in proportions (.05 level)

Data presented in Tables 4 and 5 further confirms that the differences in self-concept of learning ability and initiation of contact with teachers between Cluster and control high school students, is not a function of aspirations for further education or the importance they attach to grades.

Table 4
Student Aspirations

Response		Cluster Control			
Response	N	%	N	%	
Q. If you were free to go as far as you wanted to go in school, how far would you go?					
a. I'd like to quit right now.	2	1%	0	0%	
b. I'd like to go to high school for awhile.	3	2	0	0	
c. I'd like to graduate from high school.	36	27	14	25	
d. I'd like to go to secretarial or trade school.	11	8	1	2	
e. I'd like to go to college for awhile.	22	16	4	7	

Table 4 (cont'd.)

f.	I'd like to graduate from college	44	35%	29	53%
g.	I'd like to do grad work beyond college	14	10	7	13
	No response				
Totals:		<u>1</u> 133	<u>1</u> 100%	<u>0</u> 55	<u>0</u> 100%

No significant difference in response patterns (.05 level)

Table 5

Importance Attached to Grades

Q. How important to you are the grades you get in school?

Response	N	Cluster		Control	
		N	%	N	%
a. Grades don't matter to me at all	3		2%	0	0%
b. They are not particularly important	7		5	2	4
c. They are important	37		28	18	33
d. They are very important	83		63	35	63
No response					
Totals:		<u>3</u> 133	<u>2</u> 100%	<u>55</u>	<u>100%</u>

No significant difference in response patterns (.05 level)

The findings reported in Table 6 also support the assumption that reported differences in self-concept of ability and the extent to which teachers are approached between Cluster and control high school students cannot be attributed to differences in attitudes toward teachers; there was no significant difference in student indications of how well they get along with their teachers or in their perceptions of their teacher's interest in them in school.

Table 6

Attitudes Toward Teachers

Questions		Cluster		Control	
	N	%	N	%	
1. In general, would you say that you get along well with your teachers?					
a. Definitely not	5	4%	2	4%	
b. Probably not for the most part	4	3	2	4	
c. Not sure either way	8	6	9	16	
d. Yes, for the most part	52	39	27	49	
e. Yes, definitely	60	45	15	27	
No response	4	3			
Totals:	133	100%	55	100%	
2. In general, would you say that the teachers that you have are interested in how well you do in school?					
a. Definitely not	2	1%	1	2%	
b. Probably not	2	1	3	5	
c. Not sure either way	22	16	16	29	
d. Yes, probably	72	56	24	44	
e. Yes, definitely	31	23	11	20	
No response	4	3			
Totals:	133	100%	55	100%	

No significant difference in response patterns (.05 level)

With respect to whether the Cluster Program continued to enhance the interests of students in its activities which stress self initiative and the ability of students to function independently, the students were asked in the Fall and Spring to indicate their views toward phasing, worksheets and difficulty levels of tasks. The findings reported in Table 7 indicate a pattern, over the school year, of even larger numbers of students showing interest in the kinds of activities demanded by the Cluster Program, which are, to repeat, demanding of student self-initiative and independent effort.

Table 7

Changes in Proportions of Cluster Students Who Indicate Positive Feelings About Elements of the Program

	Students Responding Positively			
	N	Fall %	N	Spring %
1. Since phasing has begun my interest in school has increased:				
9th Graders (N= 78)	42	54%	49	63%
10th Graders (N= 55)	26	47%	37	67%
2. Individual worksheets tend to be more helpful than textbooks:				
9th Graders (N= 78)	34	44%	51	65%
10th Graders (N= 55)	20	36%	40	72%
3. My Cluster classes are not too difficult or too easy, they are just about right for me.				
9th Graders (N= 78)	65	83%	69	89%
10th Graders (N= 55)	48	87%	55	100%

For whatever reasons it appears that the success of the Cluster Program in fostering contact between teachers and students is associated with the condition that teachers are able to provide more help to students when they have problems. The data in Table 8 indicates that more Cluster students (68%) indicate that their teachers help them when they have a problem than is the case among control students who have regular high school teachers (53%).

Table 8

Help Provided by Teachers When Student Has
Academic Problems (Student Perceptions)

Question	Cluster (N=133)		Control (N=55)		
	N	%	N	%	
Q. If I am having a problem in class, my teachers:					
a. Usually help me with my problem	91	68%	29	53%	*
b. Sometimes help me with my problem	31	24	23	42	
c. Never help me with my problem	10	7	3	5	
No response	1	1			

* Significant difference in proportions (.05 level) t test.

2. Student Achievement

a. Reading

The criteria for the program objective of helping low achieving students to make gains in reading achievement was set at a 1.0 grade equivalent improvement or better on standardized achievement tests for at least 80% of the students. The data in Table 9 is in accord with this reading objective. The tenth grade students gained a year and a half over a period of only seven months. For the ninth graders there was a shift from using California Achievement Tests in the fall to Metropolitan Achievement Tests in the spring therefore making it impossible to validly compare them for an assessment of changes over the school year. However, over a three month period in the spring, ninth grade students did show a 6 month gain. Combining the data on ninth and tenth grade Cluster students it is clear that the data is in accord with the important assumption that reading skills are facilitated by the Cluster Program.

Table 9
Reading Achievement Gains
Cluster Program Students

	Metropolitan Achievement Tests Grade Equivalent Scores*		
	Oct. Form Am \bar{X}	Feb. - Mar. Form Bm \bar{X}	May Form Cm \bar{X}
10th Year Students: (N)	5.69 (109)	6.19 (104)	7.26 (109)
10th Year Students: (N)	5.76 (75)	**	7.42 (75)
9th Year Students: (N)	**	5.65 (56)	6.27 (73)

* See Table 5 for frequency distribution of gains.

** Data unavailable.

The data in Table 10 indicates that 65% of the 10th graders tested and retested over a 7 month period, 58% of the 10th graders tested and retested over a 3 month period and 39% of the 9th graders tested and retested over a 3 month period gains 1.0 or more years grade equivalents in reading. These proportions are less than the ideals stated in the initial funding proposal for the program. However, the TLRC evaluation staff believes these early ideals, while possibly valid for motivational purposes, were too unrealistic. We believe that helping 39% to 65% of the students with long histories of low achievement to gain a year or more in reading during the course of only three to seven months is a very laudable achievement for the Cluster Program.

Table 10
 FREQUENCY DISTRIBUTION OF GAINS ON METROPOLITAN
 ACHIEVEMENT TESTS: READING
 CLUSTER STUDENTS

Tenth Grade Students			
Interval	7 mo. period Tenth Grade* N=75 %	3 mo. period Tenth Grade* N=109	3 mo period Ninth Grade N=44
Below -1.0	2 } 3%	4 } 11%	3 } 33%
-1.0 - -.1	0 } 0%	8 } 7%	12 } 27%
0	4 5%	4 4%	2 5%
0.1 - 0.9	20 27%	31 27%	10 23%
1.0 - 1.9	23 } 47%	34 } 44%	12 } 39%
2.0 - 2.9	12 } 16%	14 } 13%	5 } 11%
3.0 - 3.9	9 } 12%	11 } 10%	0
Above 3.9	5 } 7%	4 } 4%	0
	100%	100%	100%

*Some 10th graders were tested in Oct. and May (N=75) others in Oct. and Feb. (N=109)

b. Mathematics

The objective in mathematics achievement was similar to the objective for reading, which was to produce a 1.0 grade equivalent gain on standardized achievement tests over the school year. The data in Table 11 indicates that the ninth grade Cluster students gained approximately one year between October and May (6.09 to 7.06) in mathematical computation skills. The tenth grade Cluster students made an overall gain of approximately one year and three months during the seven month period. Clearly the students did not lose ground. In fact, there appears to be a four to six months gain over age maturation.

Table 11

Mathematics Achievement Gains
Cluster Program Students

California Achievement Tests Grade Equivalent Scores		
Test	Oct. (80)	May (80)
Ninth Grade (80)		
Computation	6.09	7.06
Concepts and Problems	*	5.49
Total	*	6.42
Tenth Grade (N)	(96)	(103)
Computation	6.58	8.28
Concepts and Problems	5.46	6.62
Total	6.18	7.44

* Data unavailable

The data in Table 12 indicates that 47% of the ninth and 57% of the tenth grade Cluster students who were tested and retested, gained one or more years in grade equivalents in mathematics between October 1971 and May 1972. As in the case of reading we think this gain is remarkable even though it is short of the ideal expressed in the initial project proposal for funding.

Table 12

FREQUENCY DISTRIBUTION OF GAINS ON CALIFORNIA
ACHIEVEMENT TESTS: MATHEMATICS

CLUSTER STUDENTS

\bar{z}	Interval	Oct. to May Tenth Grade N=110		Oct. to May Ninth Grade N=80	
		f	%	f	%
Below	-1.0	2	16%	6	21%
	-.1 - -1.0	16		11	
	0	5	4	2	3
	.1 - 0.9	25	23	23	29
	1.0 - 1.9	41	38	19	23
	2.0 - 2.9	17	15	15	19
	3.0 - 3.9	3	4	3	5
	Above 3.9	1		1	
Totals:		100%		100%	

3. Student Attendance

As can be seen in Table 13, during the six different months sampled, the Cluster Program students had higher attendance rates than regular high school students throughout the school year. Clearly, the attendance pattern has been higher, (19% higher) for students in the Cluster Program than other students in the school. This is in accord with above cited findings of higher contact with teachers, higher self-concepts of learning ability and enhanced achievement patterns among Cluster students than among similar students in the regular high school.

Table 13
Student Attendance Data

	Percentage in Attendances			
	9th Grade (N=125)	Cluster Program 10th Grade (N=125)	Total	Benjamin Franklin H.S. Norms - Total School
	%	%	%	%
Sept.	59%	70%	65%	51%
Oct.	59	76	57	47
Nov.	60	73	67	48
Dec.	59	77	68	49
Feb.	67	80	74	51
March	66	80	74	54

The Cluster Program had an average attendance 19% higher than norms for the total high school population.

B. Utilization and Recognition of Cluster Program

1. Adoption by Professional Staff of Cluster Program Materials and Concepts

It appears on the basis of interviews and open ended questionnaires given to 12 teachers in the high school who are not a part of the Cluster Program, as shown in Table 14, that a large proportion of the school staff is unaware of much that is involved with the Cluster Program. The majority of the teachers did not indicate any use of materials or concepts unique to the Cluster Program. This lack of awareness was further confirmed by the observations of evaluation staff and consultants who generally concluded that the majority of the faculty at Benjamin Franklin High School who are not involved in the Cluster program have not adopted the concepts or materials unique to the Cluster Program.

Table 14

Teacher Perceptions of Cluster Program
(Not in Cluster Program)

Question	No. Responding
Q. 1. To what extent have the curricular materials which have been developed in the Cluster Program been helpful to you as a teacher at BFHS?	
a. I haven't used them	5
b. Unaware of availability	4
c. Has opened up a variety of meaningful laboratory types of exercises which can be used in classroom given proper conditions	2
d. Use on regular basis (excellent)	1
Q. 2. Do you feel that there has been adequate communication between the Cluster staff and the rest of the High School staff?	
a. No	6
b. No, there is a need for better communication	1
c. No, I feel many people have misconceptions about the program and the students involved	1
d. Written communication is good but oral is inadequate.	1
e. Yes	3
Q. 3. If the Cluster Program were expanded, would you want to participate?	
a. Yes	3
b. Yes, but only if all of the auxiliary services are present	1
c. Yes, if program were modified and teachers received more professional assistance from their chairmen	1
d. I might	1
e. No	1
f. No, I can't understand what Cluster is	1
g. No, I perceive Cluster as therapeutic rather than educational	1
h. No, I don't feel qualified	1
i. No, I feel that the regular school needs innovative teachers perhaps more than the Cluster	1
j. No, I like teaching older and more mature students.	1

2. Student Recognition of Cluster Services

The data presented in Table 15 indicates that of 37 Cluster students who were interviewed by TLRC evaluation staff, 27 were clearly aware of extra resources available to them in the Cluster Program. Six of the 37 students seemed to be clearly unaware and four seemed unsure of the added resources available through the Cluster Program. When asked to indicate the added resources available to them most students cited teachers (27 out of 37); only 9 mentioned counseling services and the coordinator and aides were each mentioned once. Clearly most students in the Cluster Program recognize that there are added services available to them.

Table 15
Student Awareness of Added Services
(Interview Data)

Interviewer Assessment			
Students Aware of Extra Resources	Yes = 27	N=6	Unsure =4
Aware of Services of Staff			
Teachers	21		
Counselors	9		
Coordinator	1		
Aides	1		
Total number of students interviewed = 37			

C. Costs and Implementation of Program

1. Costs

The ratio of cost per student served in the Cluster Program, excluding cost of staff that would be employed otherwise, is as follows:

Added Staff Costs	\$711.00
Special Equipment Costs	21.00
Added services in transportation, snacks, field trips, admissions, etc.	8.00
Total cost per student	<u>\$740.00</u>

2. Implementation of Program According to Plan

Five consultant curriculum specialists visited the Cluster Program 12 times during the 1971-72 school year. All of the curriculum specialists are in agreement with the TLRC evaluation staff that the Cluster Program is being conducted according to plan. No important deviations from the proposal for funding of the program were noted.

Chapter IV

CONCLUSIONS AND RECOMMENDATIONS

Major Conclusions

In summary, the major conclusions of this evaluation study are:

1. Cluster students are more likely to approach their teachers when they are having troubles with their school work than are similar students in the regular high school program (See Table 1).
2. In general, Cluster teachers are able to and do provide more help to students with problems in class than do regular high school teachers (See Table 2).
3. The Cluster Program produced higher self-concepts of learning ability among its students than did the regular high school program for similar students (See Table 3).
4. For the 10th grade students served in the Cluster Program, reading achievement gains on standardized achievement tests amounted to over one and a half years improvement in only seven months. For the 9th grade students in the Cluster Program there was observed a six month improvement in only three months. It is concluded that the Cluster Program is more than meeting its objectives of enhancing the reading skills of the students it serves (See Tables 9-10).
5. Students in the Cluster Program averaged gains in mathematics of four to six months over expectations for a seven month period. In seven months the improvement for 10th graders was one year and three months while the 9th graders gained approximately one year during this same period (See Tables 11-13).
6. The majority of teachers in the regular high school program have not adopted materials or ideas drawn from the Cluster Program. Most teachers, by February, were estimated to be unaware of much of what was involved in the Cluster Program (See Table 14).
7. Students in the Cluster Program tended to be highly aware of the added resources available to them through the Program. (See Table 15).
8. The average added cost of the Program per student served is \$740.00 (See p. 51).
9. The Cluster Program is being conducted according to plan as set forth in funding proposals. No important deviations from plans set forth in proposals for funding were observed. This conclusion is based on the above findings and the observations of five consultants and three evaluation specialists who made a total of over 20 on-site visits to the Program (See p. 52).

Recommendations

In light of the observed successes of the Cluster Program in meeting nearly all of its objectives to help students develop self-initiative in scholastic tasks, higher self-concepts of learning ability, better

attendance patterns and higher achievement levels in reading and mathematics it is difficult to not recommend that the program be expanded. However, it was also observed by consultants and evaluation staff that the majority of the high school staff were unaware of what was involved in the Cluster Program.

It is the view of the evaluation staff that the Cluster Program be expanded in the high school. However, much more should be done in acquainting and eliciting the support of the regular high school staff.

Recognizing that the Cluster staff must continue to exert its greatest efforts at refining and improving their Program, it is difficult to assign them the responsibilities for making their work more observable to the entire school. On the other hand, only they, the Cluster staff, are in a position to elaborate on their efforts. Perhaps this evaluation report will help. Perhaps continual work through faculty meetings and faculty newsletters will also aid in making the faculty more aware of the materials and curriculum of the Cluster Program.

In summary, it is recommended that the Cluster Program at Benjamin Franklin High School be continued.

APPENDIX MATERIAL

CLUSTER PROGRAM

APPENDIX A

NINTH GRADE COURSE CATALOGUE

PHASE IV JAN. 3 - JAN. 21, 1972

CLUSTER PROGRAM 1971-72

BENJAMIN FRANKLIN HIGH SCHOOL

PROGRAM SCHEDULE - Ninth Grade

	M	T	W	Th	F
Section	1C-31	1C-32	1C-33	1C-34	1C-35
	362	313	201	215	361
7	G	H	G	H	G
8					
9	J	J	J	J	J
10	gym	gym	gym	gym	gym
11	K	M	K	M	K
12	L		L		L

Registration will take place during the week of Dec. 20.
The order for priority in registration is as follows:

1C-34

1C-33

1C-32

1C-31

1C-35

December 23

Phase III Activity Day

January 6

Parent Open House - Evening

G 201 SLAVERY I

Sharon Robinson, Judith Scott,
Pete Lucca

This course will concentrate on the background of slavery in the United States. We will study about Africa at the time of the slave trade and today. Each student can then choose one area of the following for concentrated study:

- 1) 16th century African societies: Who were the Africans?
What were their societies?
- 2) Why the colonists used slaves and why they chose Africans.
- 3) How was slavery different in the English colonies from the Spanish colonies?

Contract: A trip to the Museum of Natural History, written homework assignments and classwork such as maps.

G 215 WORKSHOP IN MATHEMATICS

Cathy Vaglio, Kim Larrain,
Allan Odden

Multiplying, decimals, dividing, fractions, per cents and any math skill you can think of. Learn how to add better than an adding machine and to do math computation better than a computer. Learn the math skills you need to know to take civil service tests and other tests you may have to take to get jobs.

G 313 SAMPLING AND STATISTICS

Keith Honeywell, Lina Hale

This is a basic course in science which you must take if you did not take it in phase III.

In this course you will be collecting large amounts of information, constructing and interpreting graphs, making and analyzing averages and means. Exercises include sports averages, counting large amounts of numbers and making and reading graphs. By the end you will be able to make sense out of large amounts of information by representations on graphs and estimates from samples. Also your math will be improved.

G 361 STORIES

Susan Metz

Here we will look at short stories in literature paying particular attention to the way the work is written. We will focus on point of view and characterization. Written assignments will help each student to develop a style of his or her own. This is both a reading and a writing course.

G 362 READING LABORATORY

Min Schwarz, Carla Aderente,
Alex Rodriquez

Do you want to read faster? Can you remember what you read? Do you have trouble with long words? Use the controlled reading machines to raise your speed and comprehension. Study how words are formed to enlarge your vocabulary.

H 361 JOHNNY GOT HIS GUN

Susan Metz

This anti-war novel which was written 25 years ago questions why people go to war and how the war affects their lives. We will read the book and write guided compositions on topics raised in it. This is both a reading and a writing course.

H 201 PUERTO RICO, PART I

Pete Lucca, Judith Scott,
Sharon Robinson

Step into the Land of the Tainos. Discover Borinquen as Columbus saw it. Learn about the conquistadors and the Spanish influence on the island. Find out what the United States' role has been in Puerto Rican affairs.

We will learn about the geography and history of Puerto Rico and try to understand the struggle of the people to make the island their own.

H 215 WORKSHOP IN MATHEMATICS

Cathy Vaglio, Kim Larrain

Multiplying, decimals, dividing, fractions, per cents and any math skill you can think of. Learn how to add better than an adding machine and to do math computation better than a computer. Learn the math skills you need to know to take civil service tests and other tests you may have to take to get jobs.

H 313 CURRENT SCIENCE

Keith Honeywell, Lina Hale

This course in current science will involve investigations of new discoveries and new information about various scientific topics. This will be done through readings, films, discussions, and analyses of the information. Sample topics are: the American and Russian flights to Mars; cancer; blood diseases (anemia, sickle cell anemia, etc.); venereal disease. By the end of the phase you will be able to analyze, evaluate and discuss intelligently what new things are happening in the science world and you will learn how those new things affect you as an individual.

H 361 WRITING WORKSHOP IN POETRY

Carla Aderente

This will be a workshop in writing poetry. Through reading and listening to poetry and music we will learn about Haiku poetry, rhymes and free verse. We will study poetic methods of writing (personification, metaphor, simile, alliteration), develop concrete vocabulary and put feelings into words.

J 361 SULLIVAN READING PROGRAM

Min Schwarz, Alex Rodriquez

This is a famous programmed reading skills course. It teaches you to sound out and read difficult words, make sense of difficult sentences and to raise your reading level. You will work through your own programmed workbooks at your own speed. You must take this course if you took it last phase; new students must have permission from Min.

J 362 LANGUAGE SCIENCE

Carla Aderente

Problem: How is a good sentence put together?

Solution: Learn about grammar, word order, substitution, and sentence patterns by working on individual worksheets and a programmed textbook.

Conclusion: Practice makes perfect sentences.

J 201 POVERTY AND WELFARE LAW

Judith Scott, Sharon Robinson,
Pete Lucca

We will study the causes of poverty in the United States and the effect of poverty on people, their families and communities.

An important part of the course will be learning about the welfare laws and government help to poor families.

J 215 WORKSHOP IN MATHEMATICS

Cathy Vaglio, Kim Larrain

Multiplying, decimals, dividing, fractions, per cents and any math skill you can think of. Learn how to add better than an adding machine and to do math computation better than a computer. Learn the math skills you need to know to take civil service tests and other tests you may have to take to get jobs.

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K 313 NUTRITION

Keith Honeywell

What's your diet like? Do you think your diet is a good one? Why is good nutrition something to be concerned about? What's the difference between health foods and the regular food you find in the supermarket? What's the vitamin craze about? What vitamin pills are worth taking? What kinds of diets lead to malnutrition? These are just some of the questions you will investigate in this course on nutrition. This course is good for everybody. Take it.

K 361 MODERN AMERICAN POETS, II

Susan Metz

This course will continue work on American poets begun during phase III. This phase we will study the work of Robert Frost and ee cummings. Each man's life and poetry will be analyzed closely. Students will hopefully get some poetry of their own written.

K 362 PHONICS, SPELLING

Carla Aderente, Alex Rodricuez

Improve your spelling by working in teams as a teacher and as a student. Spelling words will be chosen based on phonics and words in the news. You can go as fast as you can pass tests and gain confidence in spelling.

K 201 CONFLICT

Judith Scott, Pete Lucca

People and groups sometimes fight and don't get along. They grieve, hurt and sometimes kill one another. We will work together to figure out what causes this trouble between people, why they act the way they do, and how you might control or stop conflict.

The Cluster psychologist will be our consultant. We will have a lot of role playing and discussion. If you like to act, here's your chance.

K 313 ALGEBRA OF THE LINE

Cathy Vaglio, Kim Larrain

This course will focus on graphs in the coordinate plane. You will learn how to graph lines, how to find where the line crosses the X and Y axis and how to find the point where two lines cross each other. Make a bee-line for this course; it will be terrific!

L 215 USING NUMBERS

Cathy Vaglio

This is a basic course in math which you must take and pass sometime before June. In this course you will learn how to solve math word problems. You will learn how to find out what the problem asks, what information you have and what operation you use to solve the problem. This course teaches you how to use numbers in many different situations.

L 313 NUTRITION

Keith Honeywell

What's your diet like? Do you think your diet is a good one? Why is good nutrition something to be concerned about. What's the difference between health foods and the regular food you find in the supermarket? What's the vitamin craze about? What vitamin pills are worth taking? What kinds of diets lead to malnutrition? These are just some of the questions you will investigate in this course on nutrition. This course is good for everybody. Take it.

L 361 MODERN AMERICAN POETS, II

Susan Metz, Alex Rodriguez

This course will continue work on American poets begun during phase II. This phase we will study the work of Robert Frost and ee cummings. Each man's life and poetry will be analyzed closely. Students will hopefully get some poetry of their own written.

L 361 NEWSPAPER (limited to 15 students)

Carla Aderente

Wanted: news from Capitol, the school, the city or country, sports, fashion, theater, music and art.

Wanted: reporters, interviewers, editors, typists, artists.

Wanted: investigation, fabrication and creation.

Contract: contribute to and produce a newspaper by the end of the phase.

This course meets sixth period Monday, Wednesday and Friday and on those days you may go home after period 11.

L 201 MAPS

Judith Scott

Beginning and advanced map students will work on their own maps and printed maps and globes. We will cover the purpose and use of maps and use maps to find ways to certain locations. Advanced students will begin to learn navigation (plotting a course for a ship or plane) and basic geography.

Each student will be expected to pass one maps course by the end of the year. Don't delay!

M 201 EYEWITNESS NEWS

Judith Scott, Pete Lucca

Keep up with the latest in crime, politics, war, famous people and other current events rising from the newspaper, radio and TV news. Then give a broadcast on your own work.

Each student will be expected to pass one news course by the end of the year. Don't delay!

M 215 WORKSHOP IN MATHEMATICS

Cathy Vaglio, Kim Larrain

Multiplying, decimals, dividing, fractions, percents and any math skill you can think of. Learn how to add better than a computer and to do math calculation better than an adding machine. Learn the math skills you need to know to take civil service tests and other tests you may have to take to get jobs.

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This course in current science will involve investigations of new discoveries and new information about various scientific topics. This will be done through readings, films, discussions, and analyses of the information. Sample topics are: the American and Russian flights to Mars; cancer; blood diseases (anemia, sickle cell anemia, etc.); venereal disease. By the end of the phase you will be able to analyze, evaluate and discuss intelligently what new things are happening in the science world and you will learn how those new things affect you as an individual.

M 361 LATIN CULTURE

Susan Metz, Alex Rodriguez

Here we will look at the culture of Puerto Rico - its art, music and particularly its literature. We will read stories and poems written on the island to see how people feel about their lives there. We will also take trips to places of interest.

M 362 MACRAME CONTINUED

Min Schwarz

This course is for those students who got into knot tying last phase and want to make belts, bags or decorations of more complicated design. You must get permission from Min to take this course.

APPENDIX B

TENTH GRADE COURSE CATALOGUE
PHASE I SEPT. 22 - OCT. 22, 1971
CLUSTER PROGRAM 1971-72
BENJAMIN FRANKLIN HIGH SCHOOL

PROGRAM SCHEDULE - Tenth Grade

	M	T	W	Th	F
Section	3C-26 280	3C-27 280	3C-28 280	3C-29 280	3C-30 280
1	A	B	A	B	A
2					
3	C	C	C	C	C
4	gym	gym	gym	gym	gym
5	D	F	D	F	D
6	E		E		E

September 17	Registration for Phase I
September 22	First day of classes
October 21	Last Day of classes
October 22	Phase I Activity Day
October 26	Registration for Phase II

A 201 GETTING RID OF HEROIN

Bruce Noble

Explore the different ways that society is trying to solve the problem of heroin addiction. Come up with your own solutions to this problem.

A 215 ALGEBRA

Dennis Moscowitz

Group and individual work in algebra. Work as fast or as slow as you want. Do the first seven assignment sheets and you will get regents credit for the first term of algebra. You must have permission from Dennis or Cathy for this course.

A 313 PHOTOSYNTHESIS

Where does all the food in the world come from? Plants. Where is the food made in the plant? In the leaves. In this course you will learn, by doing laboratory work, the structure of leaves that permit them to produce food. You will learn what kind of food plants produce. You will discover that plants use light in a special way to produce food. You will examine leaf pigments and learn how to test for the presence of carbohydrates and sugars in leaves. Can you dig it?

A 361 ON BECOMING

Ray Goldfeder

How do men and women grow from children into adults? What effect does home, church, school, society have on what people become? We will read what others have to say about these problems and rap about our own experiences.

A 362 PHONICS

Practice in sounding out and reading words we find in everyday reading.

B 201 MAP SKILLS

Bruce Noble

Use the books called "Programmed Geography" to teach yourself about the earth in space, latitudes and climates, continents and oceans. In addition, learn how to use subway maps, road maps, building maps, globes and atlases.

B 215 WORKSHOP IN MATHEMATICS

Dennis Moscovitz

Fractions, dividing, per-cents, multiplying, decimals and any math skill you can think of. Electric calculators, hand calculators, tape recorders and expert teachers available to help you add better than an adding machine and do math computation better than a computer.

B 313 SAMPLING AND STATISTICS FOR SCIENCE: YOU DO IT

This is a basic course in science. In "sampling and statistics for science" you will learn how to interpret data that you collect. Data often may look like a jumble of things but when sorted out--using sampling and statistics as tools, you may discover important questions and problems for experimentation. Sampling techniques like quadrant and capture-recapture methods will be taught. Basic understanding of mean, median, range and frequency distribution will be taught in statistics. This is a joy!

B 361 DOWN THESE MEAN STREETS

Ray Goldfeder

Reading, rapping and writing about making it in El Barrio as we study the novel by Piri Thomas.

B 362 READING COMPREHENSION

Mary Elliff

Want to learn how to psyche out reading tests? This course will help you SHOW your best reading ability. We'll practice many kinds of quizzes and discuss how to correct answers fast.

B 311 COLOR STILL PHOTOGRAPHY

Carl Doerner

Students who took still photography last spring may sign up for this course. We will meet one afternoon each week to go out into the city to take photographs. When the slides are returned we will look at them and discuss them. This course is being given with the cooperation of Life Magazine and there should be opportunity to learn a lot about picture taking and the photography business. Permission required from Carl and limited to ten students.

C 362 SCIENCE FICTION

If you think 2001: A Space Odyssey was something, take this course and read some more science fiction stories. Start the school year with the "way out world."

C 361 I KNOW WHY THE CAGED BIRD SINGS

Mary Elliff

In her own words, Maya Angelou, a beautiful Black woman, tells how it was to grow up in a small Southern town. This book covers everything from rape to religion.

C 313 PHOTOSYNTHESIS

Lina Hale

Where does all the food in the world come from? Plants. Where is the food made in the plant? In the leaves. In this course you will learn, by doing laboratory work, the structure of leaves that permits them to produce food. You will learn what kind of food plants produce. You will discover that plants use light in a special way to produce food. You will examine leaf pigments and learn how to test for the presence of carbohydrates and sugars in leaves. Can you dig it?

C 215 WORKSHOP IN MATHEMATICS

Dennis Moscowitz

Fractions, dividing, per-cents, multiplying, decimals and any math skill you can think of. Electric calculators, hand calculators, tape recorders and expert teachers available to help you add better than an adding machine and do math computation better than a computer.

C 201 NO MONEY DOWN

Bruce Noble

Have you ever been fooled by an advertisement? Do you know how much extra you pay when you buy on credit? Do you know when it's best to borrow money? This is a course for people who like to spend their money wisely.

D 361 SPELLING

Learn to spell all kinds of words using a specially designed spelling program.

D 362 PLAYWRITING

Ray Goldfeder, Mary Elliff

Learn to develop your own ideas and experiences into works for the stage or screen. Bring your imagination and be ready to share the experience of working closely with others. Those successfully completing this course will earn two phase credits and will be invited to continue work and progress into the next phase. To take this course you must sign up for it in both the D and E slots.

D 313 ENVIRONMENTAL CRISIS 1971

Lina Hale

Is there really an environmental crisis in 1971? How do we know? In this course you will participate in finding out what parts of our environment are being threatened with destruction. This course will deal mostly with verifying environmental problems. A follow-up course may deal with taking action on certain environmental problems that you discover in this course. This course is a must!

D 201 GETTING RID OF HEROIN

Bruce Noble, Sharon Robinson

Explore the different ways that society is trying to solve the problem of heroin addiction. Come up with your own solutions to this problem. You must take this course both D and E periods.

D 215 HOW MUCH INSIDE: HOW FAR AROUND

Dennis Moscovitz, Pete Lucca

Geometry of area -- how much inside -- and perimeter -- how far around. Using geo-dot paper and cut outs you will explore the relationships between area and perimeter and learn how to determine the area and perimeter of complicated geometric shapes.

E 313 ENVIRONMENTAL CRISIS 1971

Lina Hale

Is there really an environmental crisis in 1971? How do we know? In this course you will participate in finding out what parts of our environment are being threatened with destruction. This course will deal mostly with verifying environmental problems. A follow-up course may deal with taking action on certain environmental problems that you discover in this course. This course is a must!

E 361 SPELLING

Learn to spell all kinds of words using a specially designed spelling program.

E 215 WORKSHOP IN MATHEMATICS

Dennis Moscowitz, Pete Lucca

Fractions, dividing, per-cents, multiplying, decimals and any math skill you can think of. Electric calculators, hand calculators, tape recorders and expert teachers available to help you add better than an adding machine and do math computation better than a computer.

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Ray Goldfeder, Mary Elliff

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F 201 MAP SKILLS

Bruce Noble

Use the books called "Programmed Geography" to teach yourself about the earth in space, latitudes and climates, continents and oceans. In addition learn how to use subway maps, road maps, building maps, globes and atlases.

F 215 WORKSHOP IN MATHEMATICS

Dennis Moscowtiz, Pete Lucca

Fractions, dividing, per-cents, multiplying, decimals and any math skill you can think of. Electric calculators, hand calculators, tape recorders and expert teachers available to help you add better than an adding machine and do math computation better than a computer.

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F 361 DOWN THESE MEAN STREETS

Ray Goldfeder

Reading and rapping and writing about making it in El Barrio as we study the novel by Piri Thomas.

F 362 READING COMPREHENSION

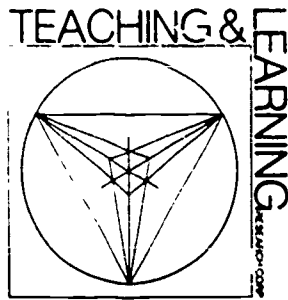
Mary Elliff

Want to learn how to psyche out reading tests? This course will help you SHOW your best reading ability. We'll practice many kinds of quizzes and discuss how to get correct answers fast.

APPENDIX C

DATA COLLECTION INSTRUMENTS

1. Staff Questionnaire
2. Student Interview Schedule
3. Teacher's Questionnaire
4. Cluster Student Questionnaire
5. Student Questionnaire



BENJAMIN FRANKLIN CLUSTER PROGRAM
STAFF QUESTIONNAIRE

NAME _____

POSITION _____

- | | YES | NO | UNSURE |
|---|-------|-------|--------|
| 1. Do you feel satisfied with the development of new curricular materials within the Cluster Program? | _____ | _____ | _____ |
| 2. Are you generally satisfied with the method of screening 9th grade students to become the Cluster population? | _____ | _____ | _____ |
| 3. Do you think that your experience in the Cluster program has increased your understanding of problem pupils? | _____ | _____ | _____ |
| 4. Are you satisfied with the guidance and psychological services rendered to the program? _____ | | | |
| If no, please state your criticism _____ | | | |
| _____ | | | |
| _____ | | | |
| _____ | | | |
| 5. Since admission in the program do you feel that the students' attitudes about themselves have improved? | _____ | _____ | _____ |
| 6. Since admission in the program do you feel that the students have improved attitudes toward learning? | _____ | _____ | _____ |
| 7. Do you feel there is a successful communication about the innovation curriculum in the Cluster Program with other departments of Benjamin Franklin High School? | _____ | _____ | _____ |
| 8. The entire ninth grade at Benjamin Franklin High School now functions as a series of mini-schools. What if any do you feel will be the impact of this program? _____ | | | |
| _____ | | | |
| _____ | | | |
| _____ | | | |

BENJAMIN FRANKLIN CLUSTER PROGRAM
STAFF QUESTIONNAIRE (Cont.)

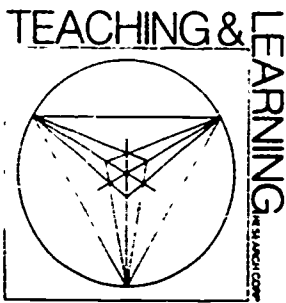
9. Would you comment on the relative importance of traditional versus affective education?

10. Describe briefly your role in the Benjamin Franklin Cluster Program.

11. What suggestions do you have about improving the program for next year?

12. What feature of the program are you most satisfied with?

13. What feature of the program are you least satisfied with?



BENJAMIN FRANKLIN CLUSTER PROGRAM INTERVIEW SCHEDULE

STUDENT

Name of student _____

Grade _____

Date _____

1. What do you feel are the strengths of the program? _____

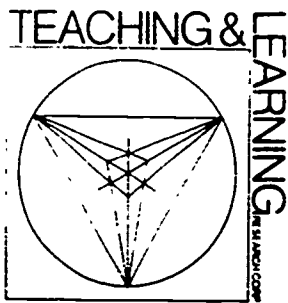
2. What do you like best about the Cluster program? _____

3. What do you feel are the weaknesses of the Cluster program? That is, what do you feel should be changed or taken out of the program? _____

4. Do you feel that you have more resources available to you than the other students in Benjamin Franklin High School?

Yes _____ No _____

If yes, list the resources available. _____



TEACHER'S QUESTIONNAIRE

1. What do you feel are the main differences between the Cluster Program and the regular program in achieving academic objectives?

2. To what extent do you feel that the Cluster Program is assisting students at Benjamin Franklin High School?

3. To what extent have the curricular materials which have been developed in the Cluster Program been helpful to you as a teacher at Benjamin Franklin High School?

4. What has been the effect of the Cluster Program on the school spirit at Benjamin Franklin High School?

5. If the Cluster Program were expanded, would you want to participate?

TEACHER QUESTIONNAIRE (cont.)

6. Which kind of students would you recommend for inclusion in the Cluster Program?

7. Do you feel that there has been adequate communication between the Cluster Staff and the rest of the High School staff?

8. What do you feel are the most effective features of the Cluster Program?

9. What are the least effective features of the Cluster Program?

10. What recommendations would you make about changes in the Cluster Program?

APPENDIX D - Program Staff and Organization

BENJAMIN FRANKLIN HIGH SCHOOL
116th St. & FDR Drive, NYC

CLUSTER PROGRAM ORGANIZATION
1971-72

Principal - Melvin Taylor

Adm. Assist. - Shirley Ford

Coordinator - Carl Doerner

Secretary - Hilda Ketchman

10th yr. Teachers

Mary Elliff
Stella Warmflash
Dennis Moscowitz
Ricky Rauch
Sharon Robinson

Curriculum Developers

Min Schwarz
Ray Goldfeder
Allan Odden
Lloyd Sherman
Bruce Noble

Subjects

Reading
English
Math
Science
Social St.

9th yr. Teachers

Carla Aderente
Susan Metz
Cathy Vaglio
Keith Honeywell
Judith Scott

10th yr. Guidance Counselor
Phil Sapienza

Psychologist (½time) Social Worker
Joe Grossberg Florence Kerson

9th yr. Guid. Coun.
Irving Geddis

Facilitators:

Programming - Allan Odden
Parent Program - Judith Scott
Student Council - Ray Goldfeder
Community Resources - Bruce Noble
Internal Evaluation - Lloyd Sherman

Educational Assistants: Barbara Freeman
Alex Rodriguez
Kim Larrain
Lena Hale
Harry Hernandez
Paul Velez
Alvin Bryant
Hester Matthew

SERVING APPROXIMATELY 250 STUDENTS

APPENDIX E

THE CLUSTER PROGRAM: BACKGROUND

The Benjamin Franklin High School Cluster Program has been well documented in previous reports.* With a history of non-attendance, poor achievement, drug use and student apathy, Benjamin Franklin High School represented much of what was wrong with urban education. Of the more than one thousand students who were enrolled as freshman in 1961, fewer than ten obtained academic diplomas in the spring of 1966. While teacher turnover was high, the school suffered from the additional effects of the adverse social, cultural, economic and emotional experiences of its students. To mitigate these effects and to bring the students a more enriching educational program, the Franklin Improvement Program Committee (FIPC) was formed in October 1966.

The FIPC was a school-community-university which met once a week and was the ultimate policy-setting body of the school. The FIPC comprised parents, teachers, administrators, students and representatives from community organizations and from Teachers College, Columbia University. One of the first actions of the Committee was the approval and introduction of the Cluster Program at Benjamin Franklin High School in the Fall of 1967. (A similarly constituted body, the principal's advisory committee now functions in place of the FIPC.)

The Cluster Program was a coordinated effort on the part of a large urban inner-city school to combat the negative effects of bigness and impersonality. Based on a "mini" school concept or clusters, a group of the incoming freshman class would be placed in a compact, educationally self-sufficient unit. The increased interaction with teachers and school personnel would, it was felt, alleviate much of the alienation so prevalent throughout the general student body as well as increase academic performance.

In its first year there were four clusters of eighty students each. The staff taught four periods daily, was relieved of all building assignments and met with other cluster teachers each day. While the program was hampered by certain physical and personnel difficulties, the program was considered moderately successful and extended into the 1968-69 school year. The biggest concerns seems to have been in the area of curriculum development.

During the second year significant progress was made in curriculum innovation in science, social studies and mathematics. It was clear, however, at the end of the year that a structural reorganization was needed. In addition class size was

* Obtained from Final Evaluation Report: 1970-71, Function #910664 Benjamin Franklin High School Study, New York: Teaching and Learning Research Corp., August 1972.

generally too small. Therefore, the size for each cluster class was increased from twenty to thirty students in order to insure active attendance of fifteen to twenty students.

In the 1969-70 school year, the number of clusters was reduced from four to two but class size was increased from twenty to thirty. Except for the mathematics and reading classes, each cluster operated as a separate unit. The mathematics and reading teachers worked as a team and created a mathematics and reading resource center. The centers offered open classroom, individualized instruction and a team of adults in the classroom, including both the teachers, the curriculum developer, and a para-professional educational assistant. It is this team model which formed the basis for the cluster proposal for 1970-71. It was at this point that the cluster program was extended to the tenth grade for those cluster students who wished to remain in the program.

There were in 1970-71 school year two clusters of 150 students each. One cluster consisted of ninth grade students selected on the basis of their reading scores, grades and attendance records, and recommendations from eighth grade guidance counselors. There were five classes of thirty students each. The second cluster consisted of 150 tenth grade students who were in the 1969-70 year program and expressed an interest in staying in the program and because they ranked low in their ninth year. There were five classes of thirty students as well.

The program had available five classrooms which were used for teaching and as resource centers. In order to obtain the exclusive use of space in the overcrowded school (three overlapping sessions) the ninth and tenth grade clusters were on different schedules during the first term. This did not allow for a common meeting time. Curriculum developers were able to meet with both groups of teachers. On the other hand, during the second term end-to-end sessions were instituted and common meeting time was then established.

The cluster staff included a coordinator; five full-time curriculum developers, in mathematics, science, English, reading and social studies; and ten teachers, two for each subject. There were also five educational assistants, a social worker, two guidance counselors and a psychologist. The program also had the services of an art teacher several times a week from another department.

PHASING PROGRAM: Begun in 1970-71 school year.*

In February of 1971, the cluster program instituted an innovation in the structure and content of its curriculum. This change, known as "PHASING", has been received very favorably by both faculty and students and is seen as one of the strongest points of this program.

The semester is divided into 4 phases. Each phase consists of 30 courses for each grade running approximately 4 weeks each. In each phase the 30 courses are divided into 6 blocks of 5 or 6 courses each. Each block usually offers science, mathematics, English and human relations courses. A student must choose one course from each block. Most courses are repeated during the 4 phaser so the student has a chance to take what he wants. This is necessary because a course closes after a certain level of registration.

* The current 1971-72 cluster program at Benjamin Franklin High School follows quite closely this phasing model begun in February 1971.

The courses are described in a catalog given to the students at the beginning of each phase. An attempt is made to present courses relevant to student needs and interests. The descriptive language is very understandable to the students.

From the catalog the student works out a schedule of courses with the Guidance counselor. The counselor offers assistance, but as the program aims at developing motivation to learn and independence in decision making, the final choice is generally left to the student. Therefore, if a student chooses most of his courses from one subject area, he is permitted to do so, so long as requirements are met by the end of a term.

The program not only gives the students a chance to take courses in what they are interested, but also gives the cluster faculty a chance to teach courses that particularly appeal to their interests or talents. An administrator of the program, for instance, teaches a course in photography; and a teacher whose hobby is pottery teaches a class in pottery at his studio. Different phase courses are taught by the coordinator, two guidance counselors, the psychologist, and the social worker.

Another unique feature of the phasing program is the contract system. In many of the courses, the student makes a contract with the teacher which states specifically what the student must accomplish in order to pass the course. As the phase progresses, he checks off what he has completed. The grading system is PASS, NO CREDIT (NC) and MASTERY, based on the contract. If the student does what he has contracted to do, he receives a PASS grade; if he does extra work (which is also defined in the contract) he receives a MASTERY. NO CREDIT indicates he has not fulfilled the terms of the contract. In courses oriented to the individual needs of the student - some of the math courses and reading laboratory, e.g. - the student and teacher work out a contract geared to the particular student and the student works at his own pace.

APPENDIX F

Illustrative Site-Visit Reports of Consultants

Evaluation-Science Cluster Program
Philip White, Ed.D.
Queens College

Evaluation - Preliminary Report on
Cluster Mathematics Program
Harvey Walker, Ph.D.
Queens College

Evaluation - General Curriculum
Percy Bates, Ph.D.
University of Michigan

Evaluation - Science Cluster Program
Benjamin Franklin High School
Spring, 1972

Philip White, Ed.D.

The Science Cluster Program appears to have developed a unique and effective system to meet the needs of its students and teaching staff. This system involves the development and use of 4-week-long courses offered during each of four "phases" of the school term. Such options clearly provide a remarkable degree of flexibility in terms of student interest and ability while at the same time permitting teachers frequent opportunity to revise materials and modify their teaching behavior.

This appraisal of the Science program is based upon an examination of the curriculum materials developed and used during each phase offered during the academic year. In addition, judgement was made on the basis of direct classroom observation and personal interviews with individual students, participating ninth and tenth grade teachers and the Curriculum Developer, Mr. Lloyd Shermer.

The general objectives of the program appear, for the most part, to have been successfully met. A discussion of each objective follows.

a) Recognition by the student of his progress in the acquisition of basic skills.

In both grades, teachers have made use of a variety of student evaluation techniques including tests, short quizzes, word sheets, and personal interviews. In at least one to tenth grade course, students were required to maintain a journal of their procedures, observations and conclusions on individual projects. These activities and materials require the acquisition and development of basic skills including reading for information, measuring, graphing, organizing and interpreting data. Students on both grade levels expressed satisfaction with their progress in developing basic skills. During classroom visitation it was apparent that most of the students were actively involved in individual small group projects - and that each was applying basic skills of observation, interpretation and hypothesizing.

b) Feeling of competence on the part of students in the performance of tasks and decision making.

Because of the limited number of courses offered during each phase, students were not as free to make their own decisions during registration. Over the two year period, however, each student should have the opportunity to exercise his freedom of choice.

The students interviewed, on both grade levels, felt they were making more personal decisions in the Cluster program than if they had remained in the regular program. However, they were more aware of their improved classroom performance. Two students who expressed an interest in going on to college felt that they could do better if more demands were made of them.

Both teachers expressed satisfaction with the level of scientific information covered in the courses and with the student-oriented laboratory sessions. These sessions appeared to stimulate students in the performance of these tasks.

An examination of worksheets and laboratory guides used in both grades seemed to substantiate the expressions of confidence in their performance. That is to say, they appeared to be able to complete assignments.

c) Pursuit, through course selection and other means, of satisfying paths of learning.

It must be pointed out that there was less freedom of choice in course selection than originally believed. In terms of pursuing their own goals and experiences there was clearly greater flexibility for students in the multiple phase model of the science cluster program than in previous years. However, there was no firm data to suggest that this general objective was met.

d) Development of feelings of competence in relations with family, authority figures and peers.

It was difficult to measure or attempt to evaluate any development or change in feelings of competence in relations with family.

Both teacher felt that relations between students and teachers were good. Classroom visitation would appear to verify these feelings. Students were respectful and friendly in their relations with faculty. The investigator had no difficulty in finding students to interview. Their reactions could only be classified as willing, open and relaxed. Every student interviewed expressed a positive attitude toward the science teachers, Educational Assistant and the Curriculum Developer.

While most students tended to work alone or in small groups, both teachers felt there was increased fluidity and movement between individuals and groups.

There was no evidence of any friction or difficulty within the peer group during the Science Curriculum Specialist's visit.

e) Development of self-esteem.

No evidence of any charge apparent to the Science Curriculum Specialist.

Since the 1969-70 school year it is apparent by direct observation that the number of students actively involved in science during class time has continually increased. Student responses during interviews suggest two major reasons --

1) The learning environment created by the teachers, Educational Assistant and the Curriculum Developer is sufficiently relaxed and pressure-free to encourage most students to attempt the assignments.

2) The academic demands of these assignments are at a level at which many students can apparently function successfully.

Typically, student reaction to the teachers in the cluster program is expressed as follows: "they care about you"; "they help you if you don't understand"; "they teach you in a better way"; and "they try harder for you". Such comments were made independently by students during individual interviews.

In terms of classroom activities and assignments the stress continues to be material oriented. During a class period of independent Science Projects, students were observed dissecting frogs, observing live snakes (caught during a field trip), turtles, and chameleons. Other students were performing simple genetic experiments using corn plants. While some students appeared to be merely observers of other students it was clear that the majority of pupils were directly involved.

The overall three year picture of this program can only be described as encouraging. The instructional materials have continued to focus on basic skills. Classroom organization is conducive to increasing student interest and performance. Teacher and student evaluation forms (See Attached) are developing which, hopefully, will provide prompt feedback for phase, course, and teacher behavior modification. Finally the Curriculum Developer, the Educational Assistant and classroom teachers appear to have more adequately defined their roles in relationship to the whole program.

Recommendations:

- 1) The greatest limitation appears to be in the number of students involved in the Science Cluster Program. In view of the philosophy and general objectives of the program it would seem appropriate to increase the number of options available during each phase.
- 2) While it is true that students seem to be more actively involved than in previous years, and that the level of the materials is appropriate for many of the students, there is some question about meeting the needs of those students who express interest in pursuing a college education. Some attempt should be made to identify these students and individualize their requirements in each course. Such individualization might simply mean making greater demands on these students.
- 3) In order to require a "fundamentals" sequence (statistics and sampling; measurement and instrumentation; and a lab course) and still provide students with alternatives and choices some attempt might be made to combine requirements with the Math Cluster Program.

4) Increasingly there appears to be a movement toward the social sciences in the Cluster Science Program. While this is not inconsistent with the general objectives of the Cluster program, it suggests that greater articulation could be developed between disciplines.

QUEENS COLLEGE
of the City University of New York

A PRELIMINARY REPORT ON THE CLUSTER MATHEMATICS PROGRAM

Harvey Walker, Ph.D.

On Monday, January 10, 1972, I visited the mathematics classes in the Cluster Program at Benjamin Franklin High School. I observed three classes in action, spoke with the faculty, and conferred with the program's mathematics coordinator.

The goal of developing basic skills has been explicitly and behaviorally stated. Highly organized, individualized instructional procedures have been designed to accommodate a wide range of abilities. Each member of the class is pretested, tested and retested in a continuing program of evaluation. Mr. Odden and his colleagues have incorporated their past experiences to provide a skills oriented program of classroom activities with the promise of effectively achieving their stated goals. Students know what is expected of them and work with a measure of purpose not found in the traditional instructional format. The workshops for developing skills seems to be the strongest component of this program.

A promising new dimension in the mathematics program is the course on problem solving. The purpose of the course is to apply the fundamental skills acquired in the arithmetic workshops to life situations. One and two step problems have been thoughtfully constructed to reflect the interests of the urban population. At this point, I cannot say whether or not the students are acquiring genuine problem solving skills or simply learning the mechanics of finding an answer.

The algebra classes still operate on a primarily what and how-to level, which seems most suited to the individualized instruction techniques. The formation of concepts and development of structure are secondary to the skills of solving equations and algebraic operations. Instruction in algebra represents the weakest aspect of the Cluster Mathematics Program. Mr. Odden claims that special time is set aside for introducing and extending concepts, but I have seen no observable evidence to support this claim either in the material or the activities.

Giving the courses in four 4 week phases seems to curtail the end of term let down usually found in the semi-annual schedule. The four phase approach accommodates the short attention span of students with low motivation. Students in the classes observed were working at a level of interest generally found at the beginning of the term. However, the split week scheduling of classes did not permit me to observe the elective courses scheduled for Tuesday and Thursday.

When one looks at this program for the first time, one is impressed with the ability of the students to sustain interest in their projects for the entire 40 minutes. This same population sample using the same materials would render the traditional approach an exercise in apathy or chaos. On the other hand the activities in the observed Cluster Mathematics classrooms seemed as static as the sameness of its method and materials. Student activity, though sustained, may have been more a matter of conditioning than motivation and genuine interest.

SITE VISIT GENERAL CURRICULUM EVALUATION

Benjamin Franklin High School Cluster Program

Percy Bates, Ph.D.

The cluster program at Benjamin Franklin High School is essentially a school within a school specifically designed to meet the individual needs of "low-achieving" students. It differs basically from the regular high school program in its emphasis upon meeting the needs of the student rather than the student meeting the needs of the program. Toward this end, the cluster program is designed with several significant differences from the regular program: 1) class size is smaller, 2) choice of courses is greater, 3) courses are limited to four-week periods and 4) course content is modified to meet student interest and achievement level. In addition, supportive psychological and remedial services are provided on an intensive basis.

The instructors in the cluster program are very enthusiastic about the program, convinced of its value and success and desirous of seeing it become the basic format for the total high school population.

This evaluator thinks that the cluster program does indeed serve a definitive and positive purpose to the particular student being served by it. However, it is also felt that a great deal of work and analysis is still needed to determine which students the program best aids and why. As indicated above, the program is specifically designed for low-achieving students. Whether the program can be successfully transferred to average and/or above average achievers is a question that remains unanswered. In fact, one might question the desirability of expanding any one particular program model to include all students. Is this singularity of approach not the "mother" of the cluster program itself?

Specifically, and less philosophically, it seems several points are worth consideration before any sound decision can be made in regard to expanding the cluster program. Let me put them in the form of questions:

1. Can science and mathematics courses be "simplistically" modified and still meet the needs and requirements of the college bound student?
2. Would teaching techniques based more on method than content fully benefit the needs of the highly-motivated, high-achieving student?
3. Has it been clearly and sufficiently proven that a traditional high school program is totally inadequate in meeting the educational needs of most students?
4. Would a mixture of cluster and regular programs, based on a well thought-out continuum of individual needs and academic excellence be feasible?
5. In view of the present opposition (by some faculty and administrators) to expansion of the cluster program, would it not be advisable to "convince" rather than contribute to further resistance?

In short and in summary, this evaluator feels that at this point the cluster program provides a unique and pedagogically sound educational experience for the low-achieving student at Benjamin Franklin High School. I would encourage expansion of the program to other students with similar academic standing and needs. However, I would not encourage expansion of the cluster program to include average or "bright" students until a critical assessment is made in regard to its value to such students.