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ABSTRACT

The College Discovery and Development Program (CDDP), funded under Title I of the 1965 Elementary Secondary Education Act, was designed for educationally disadvantaged students who are underachievers and who have evidenced potential to do satisfactory academic work. In most instances the target population has been identified by feeder school counselors as a group that could benefit from smaller classes and the possibility of individual attention. At five designated high schools--one to each borough--C.D.D.P. students were separated from the rest of the high school population to receive concentrated work in major subjects (math, foreign languages, science, social studies and English), with a special emphasis placed on basic skills. They were part of the mainstream of each school for minor subjects, electives, and in some instances for other subjects. Presumably this program was also supposed to provide tutorial service before and after regular school hours, as well as supplementary cultural activities and an exposure to college campuses. The program presently has a total student population of about 1400, with a staff consisting of teachers, coordinators, guidance counselors, student aides, family assistance, and one secretary. The stated goals are the following: (1) improving student achievement in academic subjects; (2) improving reading and math performance on standardized examinations; (3) developing an awareness of culture and the arts; and, (4) improving the changes for college admission and retention. (Author/JM)

Function No. 09-39610

EVALUATION OF THE COLLEGE DISCOVERY AND DEVELOPMENT PROGRAM

ESEA TITLE I PROGRAM

An 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 for the City of New York for the 1972-1973 school year.

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Director

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July 1973

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July 31, 1973

Dr. Anthony J. Polemeni
Director (Acting)
Bureau of Educational Research
BOARD OF EDUCATION OF THE
CITY OF NEW YORK
110 Livingston Street
Brooklyn, New York 11201

Dear Dr. Polemeni:

In fulfillment of the agreement dated June 11, 1973 between the New York City Public Schools and the Center for Educational Research and Field Services, I am pleased to submit three hundred copies of the final report, An Evaluation of the College Discovery and Development Program.

The Bureau of Educational Research and the professional staff of the New York City Public Schools were most cooperative in providing data and facilitating the study in general. Although the objective of the team was to evaluate a project funded under ESEA Title I, this report goes beyond this goal. Explicit in this report are recommendations for modifications and improvement of the program. Consequently, this report will serve its purpose best if it is studied and discussed by all who are concerned with education in New York City -- the Board of Education, professional staff, students, parents, lay leaders, and other citizens. To this end, the study team is prepared to assist with the presentation and interpretation of its report. In addition, the study team looks forward to our continued affiliation with the New York City Public Schools.

You may be sure that New York University and its School of Education will maintain a continuing interest in the schools of New York City.

Respectfully submitted,

Arnold Spinner

ARNOLD SPINNER
Director

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PREFACE

This evaluation comprises an effort by a carefully selected New York University team to assess the College Discovery and Development Program in five designated New York City high schools. Commencing March 1, 1973 this evaluation team proceeded to administer various tests, conduct interviews and observations, develop and disseminate instruments, compute and analyze scores, examine results and consequently make assessments. The entire process lasted only five months before this report was completed -- a fact that undoubtedly makes any enclosed judgments somewhat tentative. Nonetheless, the careful scrutiny given this project and the concern for honest appraisal demonstrated by the team make this report what I consider a valuable guide for future planning.

As director I deeply appreciate the extraordinary assistance of my colleague, Professor Irene Shigaki and two research assistants Ms. Vicki Pops and Ms. Beverly Wallace. Additionally, I wish to extend my gratitude to the administrators of the College Discovery and Development Program, particularly Dr. Lawrence Brody and Mrs. Cecelia Sarasohn, for the assistance they provided in obtaining the information for this report.

Herbert I. London
July, 1973

EXECUTIVE SUMMARY

The College Discovery and Development Program was designed for educationally disadvantaged students who are underachievers and who have evidenced potential to do satisfactory academic work. In most instances the target population has been identified by feeder school counselors as a group that could benefit from smaller classes and the possibility of individual attention. At five designated high schools -- one to each borough -- C.D.D. students were separated from the rest of the high school population to receive concentrated work in major subjects (math, foreign languages, science, social studies and English), with a special emphasis placed on basic skills. They were part of the mainstream of each school for minor subjects, electives, and in some instances for other subjects.

Presumably this program was also supposed to provide tutorial service before and after regular school hours, as well as supplementary cultural activities and an exposure to college campuses.

The program presently has a total student population of about 1,400, with a staff consisting of teachers, coordinators, guidance counselors, students aides, family assistants, and one secretary. It is a program jointly sponsored by the New York City Board of Education and The City University of New York. City University has furnished staff development programs, workshops, training programs and record keeping services.

Although the objectives of the program are somewhat ambiguous the stated goals are the following:

1. Improving student achievement in academic subjects;
2. Improving reading and math performance on standardized examinations;
3. Improving attendance and retention rates;
4. Developing attitudinal concern for achievement, aspiration, improved self-image and education;

5. Developing an awareness of culture and the arts;

6. Improving the chances for college admission and retention.

In order to test these objectives five evaluation procedures were identified: A comparative analysis at the .05 level between real and anticipated gains in math and reading tests; a comparative analysis of attendance rates between C.D.D. and non-C.D.D. students to determine whether there is a difference significant at the .05 level; a correlational analysis significant at the .05 level between attendance and achievement for the C.D.D. and total (non-C.D.D.) population; a correlational analysis significant at the .05 level on retention rates and grade point averages of C.D.D. and Open Admissions students enrolled in the City University; a series of interviews with project personnel and students and the administration of a questionnaire designed to measure expectations and role definition.

The findings, while inconclusive in several ways, suggest the following: The questionnaire and interview guide reveal some ambiguity and disagreement over the project's goals; M.A.T. reading scores indicate an incremental gain in the expected direction, but the math scores are inversely correlated to anticipated scores (due perhaps to the interval of four years between pre and post tests); the attendance rates indicate very few substantial trends between C.D.D. and mainstream students, but the drop-out rate in the C.D.D. program was significantly lower in almost all cases; correlations between attendance and achievement revealed no easily discernible direction and comparisons between C.D.D. and open admissions students suggested inconclusive results.

Recommendations for this program are based in part on the empirical evidence and the impressions obtained from numerous observations. It is recommended that the purposes of this project be clarified and activities and expenses reflect priorities. It is further recommended that decisions

take account of already existing student data available in the City University. On the basis of the many and changing aims in the project, it is suggested that greater emphasis be placed on basic skills particularly math, and tutorial assistance in academic subjects be provided for all students who desire it. Last, it is recommended that this program be recycled for at least one more year.

EVALUATION ACTIVITIES

From March through June 20, 42 visits were made to the five designated project high schools. These visits were made to observe project activities, review student records, interview staff members, distribute questionnaires, obtain attendance figures and administer M.A.T. tests. In addition, numerous visits were made to the Project Discovery office in the City University to review the cumulative records of students already served by the program since 1969 and every division of the City University including registrars' offices were visited in our effort to obtain information on the specified control group -- open admissions students from the five C.D.D. high schools presently attending City University.

In order to comply with the fundamental demands of the research design, while realistically recognizing the limitations in time the proposal was modified at the outset. Nonetheless, the emphasis on behavioral goals was retained by the modified evaluation proposal as this report should attest. To evaluate any effect on student attitudes two instruments were designed (See Appendix I), one for the purpose of interviewing participants in the program and obtaining general impressions and the second a more refined questionnaire prepared to explore role definitions and project expectations.

In summary are the major evaluation activities carried out in the evaluation:

Phase I (March 1- April)

1. Meetings with Project Coordinator and school coordinators.
2. Revision of evaluation design.
3. Preparation of instruments.

4. Purchase and review of M.A.T. tests.
5. Collection of pre-test data.
6. Observations of project activities.
7. Attendance at C.D.D. general meetings.

Phase II (April 1 - May 1)

1. Collection of attendance data.
2. Continued collection of pre-test information.
3. Collection of data regarding former C.D.D. students now in the City University.
4. Distribution and collection of questionnaires.
5. Interviews with coordinators, student aides, guidance counsellors, teachers and students.

Phase III (May 1 - June 20)

1. Administration of M.A.T. tests.
2. Coding and scoring tests.
3. Collection of all outstanding interview guides and questionnaires.
4. Coding and scoring all interviews and questionnaires.
5. Key punching data cards, including pre and post M.A.T. test scores and attendance data.

Phase IV (June 20 - July 25)

1. Collection of grade point average and attendance rates for specified open admissions students in City University.
2. Computation and analysis of data.
3. Writing of final report.

THE EVALUATION DESIGN

The evaluation design prepared by the Bureau of Educational Research of the Board of Education reflects the result of expected compliance with state guidelines. (See Appendix II.) This design emphasizes the achievement of behavioral objectives. This emphasis overlooked the fact that in most cases the specified pre-tests were not given when the evaluation commenced. This, along with a delay in the Board resolution, meant that the evaluation proposal had to be revised (See Appendix III) and modest evaluation goals instituted.

Several of these matters warrant further elaboration. Presumably, greater personal attention through smaller classes and more intense guidance would make this target population eligible for college. But is this suggested by M.A.T. scores? The technique becomes especially dubious when the lag between pre and post tests is so short that any success is probably not identifiable or when the lag is so great that many intervening variables could account for the resultant test scores. Both situations were evident in this evaluation: only four months separated pre and post reading tests and in most cases four years separated pre and post math tests.

The sample of target students was substantially decreased because of the generally poor attitude on the part of the students toward being tested, thereby diminishing some degree of authoritativeness in the results. But this is not the only or most serious problem associated with an evaluation design that reifies numbers. It became apparent rather early in the collection of data that the methods for record keeping are not consistent across the five schools.

Similarly, the design requests a longitudinal analysis of C.D.D. students who finally attended the City University, but it patently ignores those students who went to college at private institutions or colleges outside the city.

Additionally, in what is particularly perplexing, a control group of students from the five colleges who went to the City University under the open admissions policy was identified. But is this group an appropriate control? From a cursory examination of these students -- no more systematic analysis of this question was possible -- it is apparent that open admissions students received as much if not more tutorial assistance than C.D.D. students. Indeed, if exposure to a funded program would be a disqualifying feature of a control group student, it would be very difficult, perhaps impossible, to have a control. But if this matter is ignored what validity does a comparison have. Compounding this evaluation morass is the fact that information on open admissions students is not easily available. Even after obtaining a clearance letter from the Chancellor of the City University some registrars refused to release any student records without direct approval from those students involved. As a consequence there is not equal or near equal representation from the five schools in the establishment of the control group, another factor which makes the result somewhat tentative.

To signal the covert factors that have influenced the following statistical measures, it is suggested that the reader carefully examine the evaluation design before continuing with this report. This evaluator attempted to review honestly the relationship between goals and outcomes in this project, but it is unrealistic to assume that the statistical analysis provides a clear picture of success or failure. To compensate for this, other often impressionistic assessments will be made. In so doing, it is anticipated that some trends will come into focus.

INTERVIEW RESULTS

Although the total number interviewed was relatively small (fifteen students, fifty-one teachers, four coordinators, twelve guidance counselors and five family assistants) several trends have emerged which are suggestive, even though they must be considered tentative.* Most of the respondents (98 per cent of the total) had some favorable comments about the project, with special mention often made of "double periods," "extra counseling" and "smaller classes." Apparently there does appear to be consensus that smaller classes have a positive effect on attitude and achievement. But it was instructive that not one person could state precisely why reduced class size has an effect on achievement, especially since individual tutoring was not a common feature of the program. It was also interesting that although class size was most often mentioned by the teachers as the most desirable structural program feature, students said "I thought that classes would be smaller than others in the school but this wasn't the case" and "I had the feeling when I started the program that special tutoring in major subjects would be provided. But aside from separate classes, there were no available tutors." It is generally true that individual tutoring was limited and often unavailable.

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*See the interview guide in the appendices.

When asked about the performance of C.D.D. students there was a dramatic divergence of responses. Approximately 75 per cent of the teachers suggested that C.D.D. students were capable of college level performance, while 22 per cent argued unequivocally that these students were "incapable of any college work." On the positive side were such statements as "The C.D.D. program has given students a degree of confidence to do college work they would not get in the mainstream;" "I believe the program has helped a lot of immature students mature and has provided them with the appropriate training for college study" and "Many of the students who enter C.D. are high-risk, but because of the program they can do well in the City University." On the other hand there were those who argued that: "The performance of C.D. students was much poorer than those in regular classes. They don't attend classes, are chronically late and lack responsibility. They don't seem to be college types" and "With more remedial help these kids might do well, but by the time C.D. picks them up it may be too late to change the academic slide."

A similar discrepancy of viewpoints exists over the role of guidance counselors. Twenty per cent of the teachers and twelve percent of the students noted that the additional counselors represented the central contribution of the program. Yet many said:"C.D. kids are overguided," "Guidance counselors tend to indulge students and ignore teachers," "Guidance counselors are overprotective and the kids often take advantage of them," "Guidance counselors permit behavior that would not be allowed

for other students in the same school" and "C.D. students are too often coddled." Obviously, despite a view that additional concern for these students is necessary, there is a simultaneous resentment engendered by the alleged special treatment. It is worth noting that the majority of students interviewed identified counseling as the most egregious problem in the program.

This feeling of confusion over "special treatment" was manifested in several ways: 25 per cent of the teachers contended "kids abuse the privileges offered by a special program" and 18 per cent said the students were "too pampered." While 40 per cent of the respondents maintained separate tracking had a salutary effect and 29 per cent suggested it was elitist, unnecessary or even created false expectations.

The results of the interviews confirm the impression that perspective is critical in evaluation. One particularly adamant teacher said, "Students use the program; they can get away with more because they are in a special program." While a teacher in the same school noted, "C.D.D. is giving students confidence. It gives them satisfaction to know that people know them and care about them" and a student argued, "The feeling of being in a special program makes you want to do especially good."

The largest proportion of teachers (28 per cent) contended that the area requiring most improvement was the manner of student selection. Some said the program was "too selective," others that it "wasn't selective enough." Some argued that C.D. population should be representative of the area in which the schools are located, others said that consideration is irrelevant.

Many teachers and students said they were urged to join the program by their parents "who tended to misunderstand the goals and purposes of the program."

C.D.D., as is the case with many funded programs, labors under many misapprehensions. Almost all those questioned shared some uneasiness about the program goals. Several, by no means atypical, quotations might be instructive: "The program has no meaning to me any more. It takes up excessive teacher time and space and can easily be incorporated into other remedial programs;" "Is this an academic program or a free-wheeling combination of nothing specific?" "There tends to be bickering among program participants who should have a clearer idea of the program's goals" and "I don't know if this is a college prep or a remedial assistance program."

Interviews are particularly misleading if they represent the only source of information. Yet if the trends suggested in this section are compared with teacher and students expectations, as well as achievement rates, they lend a subjective dimension that may be critical in making judgments.

These interviews did suggest a positive spirit in the program that could not be modified or underestimated by critical responses. Most participants envision problems, particularly the articulation of objectives and directions, but they also believe that the program has a demonstrably positive effect on student attitudes and achievement rates. Students often contend that the promises made about the program, including stipends and trips, were not provided. Stipends were not promised in 1972-73 as they had been previously. However, students were apparently under the misap-

prehension that stipends would be given. Nonetheless, the students interviewed were almost universally enthusiastic about what they considered the "special emphasis" in the program, a reference to college preparatory study. It may very well be that the target population believes it is in a special program and as a consequence acts in a way that confirms the belief. Whether this is a Hawthorne effect or not is, however, irrelevant. The fact of the matter is that most student respondents have a positive attitude about education because of their participation in the College Discovery and Development Program.

Response to the Questionnaire on Program Expectations

In order to determine whether there is any consensus among participants on program goals a questionnaire was developed to discern what teachers and students and other aides "should be doing" in the project.* The questionnaire permits the respondent to assess the relative importance of the activities which characterize the program. It also implicitly suggests characteristics of role definition and whether there is a clear articulation of program emphases.

The results are presented as a frequency distribution since in some instances the number of respondents was so small, e.g. coordinators and aides, that percentages would be misleading. Nonetheless, the raw scores do speak for themselves. There is an apparent consensus that basic skills should be the emphasis in the program. It is also clear that this program "should" prepare students for college study and should offer remedial assistance in basic skills. However, this is where widespread consensus ends. Several other stated program objectives, e.g. cultural activities, improving self-image, developing an appreciation of the arts, orienting students to college admissions procedures, had mixed responses. In the case of "creating a sense of cultural identity" more them fifty per cent of the teachers described this as a routine, unimportant or inappropriate activity.

Obviously a program such as this one cannot do everything and perhaps it should just emphasize the basic skills that most respondents envision

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*See copy of the instrument in the appendices.

as most critical. Nevertheless, the program description as presently stated does include all of these activities and does not categorize them as more or less important. Surely, there is some overlap. Cultural identity may be synonymous with self-image and improving basic skills may be preparing students for college level work, but there are discrete activities such as offering students special guidance counseling, which is presumably an integral part of the program, yet is not always seen as an essential part of the program as it "should be."

This kind of questionnaire is particularly useful because it allows participants an opportunity to brain-storm without the usual financial or procedural constraints. In this case the obvious conclusion is that the respondents would prefer to restrict their activities and concentrate energies, and presumably funds, on those issues where there is the most immediate or most tangible payoff. This may undoubtedly be the most realistic approach, but it calls for an alteration in procedures, a modification in the rhetoric which is used to defend the program and a reappraisal of the allocation of funds. It also suggests that divergent views on these matters can only be reconciled by a clear exchange of views on purpose and direction and a subsequent articulation in the form of some precise descriptive statement on program aims.

TABLE A

Ratings by Teachers in College Discovery and Development Program on What the Program Should Be Doing
(N = 59)

Item	Very Important 1	Important 2	Routine 3	Unimportant 4	Not Appropriate 5	No Response
1. Improving reading skills.	44	11	2	1	1	0
2. Improving math skills.	33	20	4	0	0	2
3. Improving student knowledge of social studies.	25	15	12	1	2	4
4. Improving student knowledge of literature.	20	21	11	0	4	3
5. Improving student knowledge of science.	26	18	11	0	1	3
6. Developing foreign language skills.	14	25	9	2	2	7
7. Preparing students for college level work.	35	15	5	2	1	1
8. Offering remedial assistance in basic skills.	43	8	5	1	1	1

Item	Very Important 1	Important 2	Routine 3	Unimportant 4	Not Appropriate 5	No Response
9. Improving student self-image.	28	19	9	0	1	2
10. Developing an appreciation of the arts.	10	26	14	2	4	3
11. Developing those study habits necessary to do college work.	30	12	4	0	3	1
12. Creating a sense of cultural identity.	10	15	19	3	10	2
13. Introducing students to college admissions procedures.	6	19	22	3	6	3
14. Improving student attendance rates.	16	17	21	1	1	3
15. Offering students special guidance counselling.	26	18	10	1	3	1
16. Generating a sense of community within a school.	11	19	9	10	6	4
17. Improving student retention rate.	21	21	9	1	1	6

TABLE B

Ratings by Students in College Discovery and Development Program on What the Program Should Be Doing

(N = 60)

Item	Very Important 1	Important 2	Routine 3	Unimportant 4	Not Appropriate 5	No Response
1. Improving reading skills.	36	8	7	6	0	3
2. Improving math skills.	42	14	3	0	0	1
3. Improving student knowledge of social studies	7	25	19	5	3	1
4. Improving student knowledge of literature.	16	28	10	2	1	2
5. Improving student knowledge of science	22	14	19	4	0	1
6. Developing foreign language skills.	13	15	21	6	4	1
7. Preparing students for college level work.	45	9	3	1	1	1
8. Offering remedial assistance in basic skills.	20	23	9	4	0	3

Item	Very Important 1	Important 2	Routine 3	Unimportant 4	Not Appropriate 5	No Response
9. Improving student self-image.	18	13	16	6	6	1
10. Developing an appreciation of the arts.	7	12	18	16	6	1
11. Developing those study habits necessary to do college work.	35	13	4	2	4	1
12. Creating a sense of cultural identity.	16	23	14	5	1	1
13. Introducing students to college admissions procedures.	27	23	6	1	1	2
14. Improving student attendance rates.	22	12	21	3	1	1
15. Offering students special guidance counselling.	27	19	10	0	0	3
16. Generating a sense of community within a school.	10	19	19	8	3	1
17. Improving student retention rate.	15	19	20	2	1	3

TABLE C

Ratings by Student Aides in College Discovery and Development Program on What the Program Should Be Doing
(N = 15, from two schools)

Item	Very Important 1	Important 2	Routine 3	Unimportant 4	Not Appropriate 5	No Response
1. Improving reading skills.	10	1	3	1	0	0
2. Improving math skills.	10	2	1	1	1	0
3. Improving student knowledge of social studies.	3	9	2	0	1	0
4. Improving student knowledge of literature.	2	8	5	0	0	0
5. Improving student knowledge of science.	4	8	3	0	0	0
6. Developing foreign language skills.	3	6	5	1	0	0
7. Preparing students for college level work.	8	3	1	2	1	0
8. Offering remedial assistance in basic skills.	6	6	1	0	2	0

Item	Very Important 1	Important 2	Routine 3	Unimportant 4	Not Appropriate 5	No Response
9. Improving student self-image.	5	5	4	0	0	0
10. Developing an appreciation of the arts.	0	2	10	3	0	0
11. Developing those study habits necessary to do college work.	7	3	2	3	0	0
12. Creating a sense of cultural identity.	5	3	3	2	1	1
13. Introducing students to college admissions procedures.	6	2	4	2	0	1
14. Improving student attendance rates.	3	4	3	3	1	1
15. Offering students special guidance counselling.	4	2	6	0	2	1
16. Generating a sense of community within a school.	1	6	3	3	1	1
17. Improving student retention rate.	1	7	3	2	0	2

TABLE D

Ratings by Family Assistants in College Discovery and Development Program on What the Program Should Be Doing

(N = 8)

Item	Very Important 1	Important 2	Routine 3	Unimportant 4	Not Appropriate 5	No Response
1. Improving reading skills.	8	0	0	0	0	0
2. Improving math skills.	8	0	0	0	0	0
3. Improving student knowledge of social studies.	2	1	4	0	0	1
4. Improving student knowledge of literature.	2	3	2	0	0	1
5. Improving student knowledge of science.	2	3	2	0	0	1
6. Develo ng foreign language skills.	4	1	2	0	0	1
7. Preparing students for college level work.	4	2	1	0	0	1
8. Offering remedial assistance in basic skills.	8	0	0	0	0	1

Item	Very Important 1	Important 2	Routine 3	Unimportant 4	Not Appropriate 5	No Response
9. Improving student self-image.	6	1	1	0	0	0
10. Developing an appreciation of the arts.	2	3	2	1	0	0
11. Developing those study habits necessary to do college work.	5	2	1	0	0	0
12. Creating a sense of cultural identity.	3	3	2	0	0	0
13. Introducing students to college admissions procedures.	5	1	2	0	0	0
14. Improving student attendance rates.	5	1	2	0	0	0
15. Offering students special guidance counselling.	6	0	2	0	0	0
16. Generating a sense of community within a school.	3	3	2	0	0	0
17. Improving student retention rate.	4	1	2	0	0	1

TABLE E

Ratings by Coordinators in College Discovery and Development Program on What the Program Should Be Doing
(N = 4)

Item	Very Important 1	Important 2	Routine 3	Unimportant 4	Not Appropriate 5	No Response
1. Improving reading skills.	2	1	1	0	0	0
2. Improving math skills.	1	3	0	0	0	0
3. Improving student knowledge of social studies.	1	1	2	0	0	0
4. Improving student knowledge of literature.	1	2	1	0	0	0
5. Improving student knowledge of science.	1	1	2	0	0	0
6. Developing foreign language skills.	1	2	1	0	0	0
7. Preparing students for college level work.	3	1	0	0	0	0
8. Offering remedial assistance in basic skills.	3	0	1	0	0	0

Item	Very Important 1	Important 2	Routine 3	Unimportant 4	Not Appropriate 5	No Response
9. Improving student self-image.	4	0	0	0	0	0
10. Developing an appreciation of the arts.	1	1	2	0	0	0
11. Developing those study habits necessary to do college work.	4	0	0	0	0	0
12. Creating a sense of cultural identity.	2	1	1	0	0	0
13. Introducing students to college admissions procedures	1	3	0	0	0	0
14. Improving student attendance rates.	3	0	1	0	0	0
15. Offering students special guidance counselling.	3	1	0	0	0	0
16. Generating a sense of community within a school.	1	2	0	0	0	1
17. Improving student retention rate.	2	2	0	0	0	0

TABLE F

Ratings by Guidance Counselors in College Discovery and Development Program on What the Program Should Be Doing
(N = 12)

Item	Very Important 1	Important 2	Routine 3	Unimportant 4	Not Appropriate 5	No Response
1. Improving reading skills.	7	2	2	0	1	0
2. Improving math skills.	8	3	0	0	1	0
3. Improving student knowledge of social studies.	4	2	5	0	1	0
4. Improving student knowledge of literature.	5	1	5	0	1	0
5. Improving student knowledge of science.	4	3	4	1	0	0
6. Developing foreign language skills.	2	3	7	0	0	0
7. Preparing students for college level work.	11	0	0	0	1	0
8. Offering remedial assistance in basic skills.	7	2	2	0	1	0
9. Improving student self-image.	9	2	0	0	1	0

Item	Very Important 1	Important 2	Routine 3	Unimportant 4	Not Appropriate 5	No Response
10. Developing an appreciation of the arts.	4	6	1	1	0	0
11. Developing those study habits necessary to do college work.	10	1	0	0	1	0
12. Creating a sense of cultural identity	5	2	1	1	1	2
13. Introducing students to college admissions procedures.	7	3	1	0	1	0
14. Improving student attendance rates.	9	2	0	0	1	0
15. Offering students special guidance counselling.	10	1	0	0	1	0
16. Generating a sense of community within a school.	5	3	0	1	1	2
17. Improving student retention rate.	8	3	0	0	1	0

Objective One: An Historical Regression of Reading and Math Progress

In order to evaluate basic skills, without violating the objectives set down in the proposal, it became necessary to make revisions in the evaluation design that were consistent with the limitations in time imposed by the delayed Board resolution. As a result, M.A.T. scores in reading which were compiled in the beginning of the academic year were used as a pre-test and math tests taken in the 8th and 9th grades became pre-test scores. In both instances severe limitations are placed on the results: In the first case a short period of time elapsed between pre and post tests; in the second case so much time elapsed that the resultant scores are obscured by intervening variables.

The analysis used in both math and reading tests was a comparison of the actual post-test with the predicted score. The latter figure was computed in the following manner:

Step 1. Obtain each pupil's pre-test grade equivalent;

Step 2. Subtract 1 (most standardized tests start at 1.0);

Step 3. Divide by the figure obtained in step 2 by the number of months the pupil has been in school in order to obtain a hypothetical rate of growth per month (historical regression). In this equation kindergarten was ignored and the school year was computed on a ten-month basis;

Step 4. Multiply the number of months of Title I participation by the historical rate of growth per month;

Step 5. Add the figure obtained in step 4 to the pupil's pre-test grade equivalent;

Step 6. Test the difference for significance between the group predicted post-test mean and the actual post-test mean.

A simple analysis of variance was used to compute the difference between predicted and actual post-test means since this program was readily available at the New York University computer center.

In the analysis of the reading data for the tenth grade sample, the results indicated a F value of 4.36 (d.f. = 1,363), significant at the .035 level; at the eleventh grade the F value was 15.43 (d.f. = 1,294), significant at the .0003 level; at the twelfth grade the F value was not significant. It is worth noting that despite the short time between pre and post tests incremental gains in reading scores were achieved at the tenth and eleventh grades. It should also be noted that the twelfth grade score is not as revealing as the others since pre-test scores were available from only one of the designated schools.

In the analysis of the math data the F values in all grades were significant in a direction opposite from expectations. In other words, at all grade levels the predicted scores were higher than the actual post-test scores. However, several mitigating factors have a direct bearing on these results: As was already indicated the elapsed time of five years between pre and post math tests makes any data unreliable; pre and post test scores were available from only four schools for the twelfth grade and individuals with scores above the test ceiling of 12.9 on the pre-test predicted post-test or actual post-test were dropped from the sample since meaningful comparisons could not be made. If observations are at all a guide in this

matter, it is probably also true that more emphasis is placed on reading rather than math skills in this program, a condition that is at least partially due to the orientation of many college offerings.

TABLE I-A

Analysis of Variance of Achievement on the Metropolitan Reading Test for the 10th Grade Sample

Source	Mean Square	Degrees of Freedom	F
Between Ss	5.18	363	
Within Ss (Predicted Post-Test, Actual Post-Test)	3.69	1	4.36*
Residual (B x W)	.85	363	
Total		727	

*Significant at the .035 level

Pre-Test Mean 9.7

Predicted Post-Test Mean 9.9

Actual Post-Test Mean 10.0

TABLE I-B

Analysis of Variance of Achievement on the Metropolitan Reading Test for the 11th Grade Sample

Source	Mean Square	Degrees of Freedom	F
Between Ss	4.70	294	
Within Ss	13.64	1	15.43*
Residual (B x W)	.88	294	
Total		589	

*Significant at the .0003 level

Pre-Test Mean	9.6
Predicted Post-Test Mean	10.0
Actual Post-Test Mean	10.3

TABLE I-C

Analysis of Variance of Achievement on the Metropolitan Reading Test for the 12th Grade Sample

Source	Mean Square	Degrees of Freedom	F
Between Ss	2.19	31	
Within Ss	1.66	1	3.30*
Residual (B x W)	.50	31	
Total		63	

*Not Significant

Pre-Test Mean	11.0
Predicted Post-Test Mean	11.4
Actual Post-Test Mean	11.1

TABLE I-D

Analysis of Variance of Achievement on the Metropolitan Mathematics Test for the 10th Grade Sample

Source	Mean Square	Degrees of Freedom	F
Between Ss	3.49	223	
Within Ss	35.74	1	34.94*
Residual (B x W)	1.05	223	
Total		447	

*Value was significant, but the predicted was higher than the actual post-test, (See below).

Pre-Test Mean	7.7
Predicted Post-Test Mean	9.7
Actual Post-Test Mean	9.1

TABLE I-E

Analysis of Variance of Achievement on the Metropolitan Mathematics Test for the 11th Grade Sample

Source	Mean Square	Degrees of Freedom	F
Between Ss	3.77	206	
Within Ss	13.73	1	14.84*
Residual (B x W)	.93	206	
Total		413	

*Value was significant, but the predicted was higher than the actual post-test, (See below).

Pre-Test Mean	7.1
Predicted Post-Test Mean	9.8
Actual Post-Test Mean	9.4

TABLE I-F

Analysis of Variance of Achievement on the
Metropolitan Mathematics Test for the 12th Grade Sample

Source	Mean Square	Degrees of Freedom	F
Between Ss	4.00	88	
Within Ss	33.83	1	39.92*
Residual (B x W)	.85	88	
Total		177	

*Value was significant, but the predicted was higher than the actual post-test, (See below).

Pre-Test Mean	7.1
Predicted Post-Test Mean	10.6
Actual Post-Test Mean	9.7

TABLE I-G

Frequency Distributions of Predicted and Actual Post-Test Scores in Reading for the 10th Grade Sample

Grade Equivalent	Predicted Post-Test			Actual Post-Test		
	N	%	Cum %	N	%	Cum %
3.5 - 3.9	--	--	0.0	1	.3	.3
4.0 - 4.4	1	.3	.3	--	--	.3
4.5 - 4.9	4	1.1	1.4	--	--	.3
5.0 - 5.4	3	.8	2.2	2	.5	.8
5.5 - 5.9	5	1.4	3.6	3	.8	1.6
6.0 - 6.4	6	1.7	5.3	9	2.5	4.1
6.5 - 6.9	7	1.9	7.2	2	.6	4.7
7.0 - 7.4	9	2.5	9.7	10	2.8	7.5
7.5 - 7.9	14	3.9	13.6	16	4.4	11.9
8.0 - 8.4	29	8.0	21.6	12	3.3	15.2
8.5 - 8.9	30	8.2	29.8	23	6.3	21.5
9.0 - 9.4	27	7.4	37.2	27	7.4	28.9
9.5 - 9.9	25	6.9	44.1	24	6.6	35.5
10.0 -10.4	36	9.9	54.0	56	15.4	50.9
10.5 -10.9	48	13.2	67.2	50	13.8	64.7
11.0 -11.4	37	10.2	77.4	50	13.8	78.5
11.5 -11.9	34	9.3	86.7	52	14.3	92.8
12.0 -12.4	21	5.8	92.5	22	6.1	98.9
12.5 -12.9	28	7.7	100.2	5	1.4	100.3
s	364		100.2	364		100.3

TABLE I-H

Frequency Distributions of Predicted and Actual Post-Test Scores in Reading for the 11th Grade Sample

Grade Equivalent	Predicted Post-Test N	%	Cum %	Actual Post-Test Post	%	Cum %
4.0 - 4.4	1	.4	.4	1	.4	.4
4.5 - 4.9	3	1.0	1.4	--	--	.4
5.0 - 5.4	--	--	1.4	1	.4	.8
5.5 - 5.9	2	.7	2.1	6	2.0	2.8
6.0 - 6.4	2	.7	2.8	2	.7	3.5
6.5 - 6.9	3	1.0	3.8	2	.7	4.2
7.0 - 7.4	18	6.1	9.9	5	1.7	5.9
7.5 - 7.9	15	5.1	15.0	7	2.4	8.3
8.0 - 8.4	14	4.8	19.8	17	5.8	14.1
8.5 - 8.9	14	4.8	24.6	12	4.1	18.2
9.0 - 9.4	29	9.8	34.4	27	9.2	27.4
9.5 - 9.9	37	12.6	47.0	16	5.4	32.8
10.0 -10.4	35	11.9	58.9	49	16.6	49.4
10.5 -10.9	31	10.5	69.4	31	10.5	59.9
11.0 -11.4	28	9.5	78.9	45	15.3	75.2
11.5 -11.9	22	7.5	86.4	41	13.9	89.1
12.0 -12.4	19	6.5	92.9	29	9.8	98.9
12.5 -12.9	22	7.5	100.4	4	1.4	100.3
Totals	295		100.4	295		100.3

TABLE I-I

Frequency Distributions of Predicted and Actual Post-Test Scores in Reading for the 12th Grade Sample

Grade Equivalent	Predicted Post-Test N Anticipated	%	Cum %	Actual Post-Test N	%	Cum %
7.0 - 7.4	--	--	0.0	--	--	0.0
7.5 - 7.9	2	6.3	6.3	--	--	0.0
8.0 - 8.4	--	--	6.3	--	--	0.0
8.5 - 8.9	--	--	6.3	2	6.3	6.3
9.0 - 9.4	--	--	6.3	1	3.1	9.4
9.5 - 9.9	3	9.4	15.7	2	6.3	15.7
10.0 -10.4	1	3.1	18.8	--	--	15.7
10.5 -10.9	3	9.4	28.2	7	21.8	37.5
11.0 -11.4	3	9.4	37.6	4	12.5	50.0
11.5 -11.9	9	28.1	65.7	15	46.8	96.8
12.0 -12.4	4	12.5	78.2	1	3.1	99.9
12.5 -12.9	7	21.8	100.0	--	--	99.9
Totals	32		100.0	32		99.9

TABLE I-J

Frequency Distributions of Predicted and Actual Post-Test Scores in Mathematics for the 10th Grade Sample

Grade Equivalent	Predicted Post-Test N	%	Cum %	Actual Post-Test N	%	Cum %
4.5 - 4.9	--	--	0.0	--	--	0.0
5.0 - 5.4	1	.4	.4	--	--	0.0
5.5 - 5.9	1	.4	.8	1	.4	.4
6.0 - 6.4	--	--	.8	3	1.3	1.7
6.5 - 6.9	7	3.1	3.9	10	4.4	6.1
7.0 - 7.4	6	2.7	6.6	8	3.5	9.6
7.5 - 7.9	15	6.6	13.2	27	12.0	21.6
8.0 - 8.4	15	6.6	19.8	35	15.6	37.2
8.5 - 8.9	33	14.7	34.5	22	9.8	47.0
9.0 - 9.4	20	8.9	43.4	23	10.2	57.2
9.5 - 9.9	28	12.5	55.9	22	9.8	67.0
10.0 -10.4	22	9.8	65.7	28	12.5	79.5
10.5 -10.9	23	10.2	75.9	19	8.4	87.9
11.0 -11.4	18	8.0	83.9	11	4.9	92.8
11.5 -11.9	20	8.9	92.8	6	2.7	95.5
12.0 -12.4	8	3.5	96.3	7	3.1	98.6
12.5 -12.9	7	3.1	99.4	2	.9	99.5
Totals	224		99.4	224		99.5

TABLE I-K

Frequency Distributions of Predicted and Actual Post-Test Scores in Mathematics for the 11th Grade Sample

Grade Equivalent	Predicted Post-Test N	%	Cum %	Actual Post-Test N	%	Cum %
5.0 - 5.4	--	--	0.0	2	1.0	1.0
5.5 - 5.9	--	--	0.0	--	--	1.0
6.0 - 6.4	2	1.0	1.0	4	1.9	2.9
6.5 - 6.9	1	.5	1.5	4	1.9	4.8
7.0 - 7.4	8	3.9	5.4	3	1.5	6.3
7.5 - 7.9	9	4.3	9.7	18	8.7	15.0
8.0 - 8.4	20	9.7	19.4	35	16.9	31.9
8.5 - 8.9	30	14.5	33.9	23	11.1	43.0
9.0 - 9.4	30	14.5	48.4	22	10.6	53.6
9.5 - 9.9	25	12.1	60.5	15	7.2	60.8
10.0 -10.4	13	6.3	66.8	29	14.0	74.8
10.5 -10.9	22	10.6	77.4	12	5.6	80.4
11.0 -11.4	10	4.8	82.2	21	10.1	90.5
11.5 -11.9	17	8.2	90.4	9	4.3	94.8
12.0 -12.4	11	5.3	95.7	9	4.3	99.1
12.5 -12.9	9	4.3	100.0	2	1.0	100.1
Totals	207		100.0	207		100.1

TABLE I-L

Frequency Distributions of Predicted and Actual Post-Test Scores in Mathematics for the 12th Grade Sample

Grade Equivalent	Predicted Post-Test N	%	Cum %	Actual Post-Test N	%	Cum %
5.5 - 5.9	--	--	00.0	1	1.1	1.1
6.0 - 6.4	--	--	00.0	--	--	1.1
6.5 - 6.9	--	--	00.0	3	3.3	4.4
7.0 - 7.4	3	3.3	3.3	2	2.2	6.6
7.5 - 7.9	3	3.3	6.6	7	7.8	14.4
8.0 - 8.4	2	2.2	8.8	11	12.3	26.7
8.5 - 8.9	5	5.6	14.4	5	5.6	32.3
9.0 - 9.4	8	8.9	23.3	13	14.6	46.9
9.0 - 9.9	9	10.1	33.4	4	4.4	51.3
10.0 -10.4	6	6.7	40.1	9	10.1	61.4
10.5 -10.9	9	10.1	50.2	8	8.9	70.3
11.0 -11.4	15	16.9	67.1	9	10.1	80.4
11.5 -11.9	13	14.6	81.7	12	13.4	93.8
12.0 -12.4	7	7.8	89.5	4	4.4	98.2
12.5 -12.4	9	10.1	99.6	1	1.1	99.3
Totals	89		99.6	89		99.3

OBJECTIVE II: An Analysis of Variance for Attendance and the Retention Rate Between College Discovery and Mainstream Students

Objective II is based on the premises that there will be a significant difference in the attendance and the drop-out rates between C.D.D. and non-C.D.D. students. In order to obtain this data, attendance figures for the ninth, tenth, eleventh and twelfth grades for all C.D.D. students were collected. (For Centers I, II and V* ninth grade attendance figures were not available). A sampling of mainstream students one and one-half times the number of C.D. students was identified as the comparison group and attendance records were collected for them. It should be noted that the underlying assumption in the attendance rate is that as students progress through high school their absentee rate would increase.** However, as the statistics demonstrated this was only the case part of the time, a factor that partially accounts for the inconclusive results. Even those significant values that did emerge do not reveal any trend either by class, center or year. Furthermore, the significant differences favored the C.D.D. students in some cases and mainstream students in others.

The methodology for this part of the evaluation was consistent with that suggested in the evaluation, except that since the total number of days varied only slightly (three days was the maximum difference between centers) proportions were not used and an F ratio was computed for the differences (12-11, 11-10, 10-9) between C.D.D. and mainstream students.

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*Center I--Jamaica H.S., Center II--Jefferson H.S., Center III--Port Richmond H.S., Center IV--Roosevelt H.S., Center V--Seward Park H.S.

**See p. 4 in the Evaluation Proposal.

A drop-out rate was very difficult to compute since no consistent standard exists across schools. In some centers a student was considered a drop-out if he was no longer at the school, even though he may have transferred to another school. Records for the C.D.D. population were somewhat better, yet it would not have been logical to test for significant differences when the findings would give the illusion of being much more definitive than they actually were. The data were tabulated by a comparison of drop-out percentages for C.D.D. and mainstream students at each of the designated centers (See Table II-N).

Overall the C.D.D. drop-out rate is notably lower than the mainstream, with an exception at Center III for the sophomore and senior classes. However, it should be noted that even in this exceptional case the drop-out rates for both C.D.D. and the mainstream were extemely low compared to the total population. These data seem to suggest that the C.D.D. project has certain characteristics that account for the dramatically higher retention rate of its students.

TABLE II-A

Summary Table for Analysis of Variance for Attendance Between College Discovery and Mainstream Students

	Grade 10-9			Grade 11-10			Grade 12-11		
	CD $\bar{X}$	MS $\bar{X}$	F	CD $\bar{X}$	MS $\bar{X}$	F	CD $\bar{X}$	MS $\bar{X}$	F
Center I									
Junior Class				1.45	.88	.18			
Senior Class				1.53	-.71	4.37*	.95	-.18	1.01
Center II									
Sophomore Class	-.41	9.30	7.50*						
Junior Class	-2.02	4.44	5.15*	3.01	5.75	.93			
Senior Class	-1.57	4.87	2.15	.16	.47	.01	5.05	2.90	.44
Center III									
Junior Class				3.43	2.96	.08			
Senior Class				-4.72	-3.43	.62	6.89	1.35	7.56*
Center IV									
Sophomore Class	1.67	18.27	12.73*						
Junior Class	1.00	4.01	.83	.18	3.41	1.05			
Senior Class	3.46	-2.16	6.18*	-.62	-.95	.03	.37	-1.13	.73
Center V									
Junior Class				10.88	7.47	.99			
Senior Class				6.44	2.83	3.51	10.94	1.53	13.09*

*Significant beyond the .05 level.

TABLE II-B

Analysis of Variance for Attendance Between College Discovery and Mainstream Students from the Junior Class of Center I

Differences Between 11th and 10th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	19.01	1	.18 (N.S.)
Within Groups	103.87	234	
Total		235	

TABLE II-C

Analysis of Variance for Attendance Between College Discovery and Mainstream Students from the Senior Class of Center I

Differences Between 11th and 10th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	220.06	1	4.37*
Within Groups	50.35	202	
Total		203	

Differences Between 12th and 11th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	56.25	1	1.01
Within Groups	55.64	202	
Total		203	

*Significant beyond the .05 level.

TABLE II-D

Analysis of Variance for Attendance Between College Discovery and Mainstream Students from the Sophomore Class of Center II

Differences Between 10th and 9th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	5969.60	1	7.50*
Within Groups	796.49	258	
Total		259	

*Significant beyond the .05 level.

TABLE II-E

Analysis of Variance for Attendance Between College Discovery and Mainstream Students from the Junior Class of Center II

Differences Between 10th and 9th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	2349.94	1	5.15*
Within Groups	464.97	230	
Total		231	

Differences Between 11th and 10th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	422.37	1	.93
Within Groups	453.15	230	
Total		231	

*Significant beyond the .05 level.

TABLE II-F

Analysis of Variance for Attendance Between College Discovery and Mainstream Students from the Senior Class of Center II

Differences Between 10th and 9th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	1581.95	1	2.15
Within Groups	735.82	173	
Total		174	

Differences Between 11th and 10th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	3.66	1	.01
Within Groups	358.24	173	
Total		174	

Differences Between 12th and 11th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	176.75	1	.44
Within Groups	400.08	173	
Total		174	

TABLE II-G

Analysis of Variance for Attendance Between College Discovery and Mainstream Students from the Junior Class of Center III

Differences Between 11th and 10th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	11.73	1	.08
Within Groups	148.51	230	
Total		231	

TABLE II-H

Analysis of Variance for Attendance Between College Discovery and Mainstream Students from the Senior Class of Center III

Differences Between 11th and 10th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	53.94	1	.62
Within Groups	87.33	135	
Total		136	

Differences Between 12th and 11th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	997.92	1	7.56*
Within Groups	131.93	135	
Total		136	

*Significant beyond the .05 level.

TABLE II-I

Analysis of Variance for Attendance Between College Discovery and Mainstream Students from the Sophomore Class of Center IV

Differences Between 10th and 9th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	17488.06	1	12.73*
Within Groups	1373.84	270	
Total		271	

*Significant beyond the .05 level.

TABLE II-J

Analysis of Variance for Attendance Between College Discovery and Mainstream Students from the Junior Class of Center IV

Differences Between 10th and 9th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	590.22	1	.83
Within Groups	711.08	266	
Total		267	

Differences Between 11th and 10th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	677.35	1	1.05
Within Groups	643.68	266	
Total		267	

TABLE II-K

Analysis of Variance for Attendance Between College Discovery and Mainstream Students from the Senior Class of Center IV

Differences Between 10th and 9th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	1627.78	1	6.18*
Within Groups	263.21	228	
Total		229	

Differences Between 11th and 10th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	5.68	1	.03
Within Groups	165.33	228	
Total		229	

Differences Between 12th and 11th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	116.50	1	.73
Within Groups	158.69	228	
Total		229	

*Significant beyond the .05 level.

TABLE II-L

Analysis of Variance for Attendance Between College Discovery and Mainstream Students from the Junior Class of Center V

Differences Between 11th and 10th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	646.88	1	.99
Within Groups	650.50	232	
Total		233	

TABLE II-M

Analysis of Variance for Attendance Between College Discovery and Mainstream Students from the Senior Class of Center V

Differences Between 11th and 10th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	724.67	1	3.51
Within Groups	206.39	230	
Total		231	

Differences Between 12th and 11th Grades

Source	Mean Square	Degrees of Freedom	F
Between Groups	4934.20	1	13.09*
Within Groups	377.01	230	
Total		231	

*Significant beyond the .05 level.

TABLE II-N

A Comparison of the Dropout Rates Between College Discovery and Mainstream Students By Class, Year, and Center

Center & Class	College Discovery Total Enrollment	College Discovery Drop-outs	Mainstream Total Enrollment	Mainstream Drop-outs	% of Drop-outs CD	% of Drop-outs MS
Center I						
Sophomores						
10th year	118	6	878	118	5.1	13.4
Juniors						
10th year	117	5	714	171	4.3	23.9
11th year	113	2	795	133	1.8	16.7
Seniors						
10th year	94	9	1249	260	9.6	20.8
11th year	80	5	1235	230	6.3	18.6
12th year	72	4	1048	141	5.6	13.5
Center II						
Sophomores						
10th year	110	7	1242	427	6.4	34.4
Juniors						
10th year	109	4	1232	589	3.7	47.8
11th year	112	21	799	208	18.8	26.0
Seniors						
10th year	126	31	1459	767	24.6	52.6
11th year	97	26	904	343	26.8	37.9
12th year	74	10	571	282	13.5	49.4
Center III						
Sophomores						
10th year	77	2	3418	85	2.6	7.5
Juniors						
10th year	80	2	2558	95	2.5	3.7
11th year	77	2	3478	98	2.6	2.8
Seniors						
10th year	85	10	4229	134	11.8	3.2
11th year	73	8	3859	142	11.0	3.7
12th year	63	9	2152	75	14.3	3.5

Center & Class	College Discovery Total Enrollment	College Discovery Dropouts	Mainstream Total Enrollment	Mainstream Dropouts	% of Drop-outs CD	% of Drop-outs MS
Center IV						
Sophomores						
10th year	108	15	1589	698	13.9	43.9
Juniors						
10th year	119	18	1789	749	15.1	41.9
11th year	118	19	1128	380	16.1	33.7
Seniors						
10th year	131	27	1824	788	20.6	43.2
11th year	113	19	1403	539	16.8	38.4
12th year	95	9	745	310	9.5	41.6
Center V						
Sophomores						
10th year	118	10	1748	229	8.5	13.1
Juniors						
10th year	109	9	2006	199	8.3	9.9
11th year	95	10	1343	489	10.5	36.4
Seniors						
10th year	124	10	1835	164	8.1	8.9
11th year	114	6	1088	575	5.3	52.8
12th year	110	14	837	324	12.7	38.7

OBJECTIVE III: A Correlational Analysis Between Attendance and Reading and Mathematics Achievement for the 1972-1973 School Year by Center and by Grade

This objective is based on the proposition that increased attendance will yield a positive effect on achievement.

In computing these correlations an average absentee rate of the sample mainstream students for the 1972-1973 school year was used as a cut-off since the percentage difference was not available for all the centers. (These figures are available in Table III-A. It is interesting to note that in comparing Table II-N and Table III-A, Centers I and III have the best attendance and retention rates.) The average rate for the school at each grade was used to dichotomize C.D.D. students; those who were absent the same number of days as the average or more were coded I, those with fewer absences were coded 0. Intercorrelations of this adjusted attendance rate with achievement in reading and math, as measured by the standardized M.A.T. tests administered in May and June 1973, were computed. Table III-B indicates the intercorrelations by center and by grade.

All the values with one exception are insignificant.* The exception is the intercorrelation between reading achievement and attendance for grade twelve at center III. However, this one exception does not represent any evidence from which to generalize; moreover, the sample size of only thirty-two makes any conclusion very tenuous indeed.

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*It should be noted that the negative values in this table are consistent with the coding method for attendance described earlier.

TABLE III-A

Average 1972-1973 School Year Absentee Rates* for
a Sample of the Mainstream Students
By Center and By Grade

Center	Grade 10	Grade 11	Grade 12
Center I	12	16	14
Center II	39	35	27
Center III	21	19	17
Center IV	48	30	16
Center V	26	30	19

*Expressed in days

TABLE III-B

Point Biserial Correlations Between Attendance and Reading and Mathematics Achievement for the 1972-1973 School Year By Center and By Grade

Center & Grade	Reading ✓	Reading N	Math ✓	Math N
Center I				
10th Grade	.02	(88)	-.14	(54)
11th Grade	.06	(83)	-.14	(41)
12th Grade	---	----	.07	(21)
Center II				
10th Grade	-.12	(82)	-.10	(56)
11th Grade	.01	(58)	-.09	(45)
12th Grade	---	----	-.35	(25)
Center III				
10th Grade	-.16	(56)	-.27	(12)
11th Grade	-.03	(39)	-.03	(13)
12th Grade	-.40*	(32)	---	----
Center IV				
10th Grade	-.19	(43)	-.07	(54)
11th Grade	.002	(62)	-.05	(62)
12th Grade	---	----	-.12	(39)
Center V				
10th Grade	.07	(86)	-.12	(41)
11th Grade	.19	(43)	-.10	(39)
12th Grade	---	----	-.05	(4)

*Significant beyond the .05 level.

OBJECTIVE IV: An Analysis of the Difference Between C.D.D. and Open Admissions Students Enrolled in Units of the City University on Retention Rates and Grade Point Averages

In attempting to compare C.D.D. and Open Admission (O.A.) students several conditions had to be met before matched pairs could be established: 1) The high school grade point average had to be comparable--the matching was done within a four point range with most of the population matched exactly or within one point; 2) Students of both groups had to have attended the same high school and 3) Students of both groups have to be attending the same unit of the City University. Since there were four C.D.D. classes and only one O.A. class, each of the four classes were matched with the same O.A. group, a condition which meant that on several occasions the same O.A. student was used as a control four times. It should be noted that since the number of students for each center was very small, the analysis included a pooled population of the four classes from each center.

Information on the Open Admissions students were restricted to the following units of the City University: Baruch, Lehman and Queens (four-year colleges); Staten Island, Queensborough, Kingsborough, Bronx and Manhattan (two-year colleges). These colleges represent less than half of those in the City University, but the rest refused to offer any information on O.A. students despite many calls to the respective registrars, visits by research assistants, letters and overtures by the Bureau of Educational Research and letters granting access to the records by the Vice Chancellor and the Chancellor of the City University.

In Table IV-A the relationship between the college drop-out rate and

the number of high school academic units was compared. Since thirty-four units are usually considered the standard for an academic program (this is by no means universal) it was the cut-off point for the computations. It should also be noted that drop-outs constitute those who enrolled first semester then dropped; those who enrolled first semester, enrolled second semester and then abruptly withdrew. The frequency distributions are based on students who completed a minimum of one semester and are organized separately for junior and senior colleges. There was no available data for the college seniors who had attended Center III.

Table IV-A indicates that at only Center II are the values significant; however, they are significant for both O.A. and C.D.D. students without any discernible trend. Similarly Table IV-B reveals that Center I has significant values but once again O.A. and C.D.D. scores are almost equal. From these data it is very difficult to make firm generalizations. It does appear that when O.A. and C.D.D. students are matched for academic units and grade point average their achievement and drop-out rate indices in a college setting are not significantly different.

TABLE IV-A

Chi-Square Values for the Relationship Between College Dropout and High School Academic Units for College Discovery and Matched Open Admissions Students by Center

Center	Program	Dropouts		Retentions		X^2
		>34 units	≤34 units	>34 units	≤34 units	
Center I	College Discovery	1	8	5	42	.34
	Open Admissions	4	4	16	32	.67
Center II	College Discovery	6	0	14	30	9.99*
	Open Admissions	6	1	9	34	12.15*
Center III	College Discovery	7	32	13	42	.36
	Open Admissions	3	6	29	56	.13
Center IV	College Discovery	8	6	29	31	.45
	Open Admissions	2	1	59	12	.43
Center V	College Discovery	2	20	10	63	.83
	Open Admissions	11	6	49	29	.08

*Significant beyond the .05 level (df = 1).

TABLE IV-B

Chi-Square Values for the Relationship Between College Achievement and High School Academic Units for College Discovery and Matched Open Admissions Students by Center

Center	Program	>50 Qual. Pt. Ave. >34 units	>50 Qual. Pt. Ave. ≤34 units	≤50 Qual. Pt. Ave >34 units	≤50 Qual. Pt. Ave ≤34 units	X^2
Center I	College Discovery	6	33	0	17	4.02*
	Open Admissions	17	18	3	18	5.63*
Center II	College Discovery	15	20	5	10	.54
	Open Admissions	12	25	3	10	.70
Center III	College Discovery	13	41	7	33	.45
	Open Admissions	19	26	13	36	3.07
Center IV	College Discovery	26	32	11	5	2.95
	Open Admissions	33	4	28	9	1.51
Center V	College Discovery	8	47	4	36	.55
	Open Admissions	41	17	19	18	3.05

*Significant beyond the .05 level (df = 1).

TABLE IV-C

Frequency Distributions of Freshman Quality Point Average for College Discovery and Matched Open Admissions Students from Center I Attending Junior Colleges

	College Discovery			Open Admissions		
FQPA	N	%	Cum %	N	%	Cum %
0 - 5	1	2.9	2.9			
6 -10	7	20.5	23.4			
11-15	2	5.8	29.2			
16-20	1	2.9	32.1	1	2.1	2.1
21-25	1	2.9	35.0	3	8.8	10.9
26-30	2	5.8	40.8	7	20.5	31.4
31-35	8	23.4	64.2	5	14.7	46.1
36-40	2	5.8	70.0	4	11.7	57.8
41-45	1	2.9	72.9			
46-50	3	8.8	81.7			
51-55	1	2.9	84.6	3	8.8	66.6
56-60	3	8.8	93.4			
61-65				4	11.7	78.3
66-70	1	2.9	96.3	3	8.8	87.1
71-75						
76-80						
81-85						
86-90						
91-95						
96-100	1	2.9	99.2	4	11.7	98.8
101-105						
106-110						
111-115						
116-120						
Totals	34		99.2	34		98.8

TABLE IV-D

Frequency Distributions of Freshman Qaulity Point Average for College Discovery and Matched Open Admissions Students from Center II Attending Junior Colleges

	College Discovery			Open Admissions		
FQPA	N	%	Cum %	N	%	Cum %
0 - 5				4	25.0	25.0
6 -10						
11-15	2	12.5	12.5			
16-20	2	12.5	25.0			
21-25	3	18.7	43.7			
26-30	2	12.5	56.2	2	12.5	37.5
31-35	1	6.2	62.4			
36-40	2	12.5	74.9	1	6.2	43.7
41-45	2	12.5	87.4			
46-50				1	6.2	49.9
51-55	1	6.2	93.6	4	25.0	74.9
56-60						
61-65	1	6.2	99.8	1	6.2	81.1
66-70						
71-75						
76-80				1	6.2	87.3
81-85						
86-90						
91-95						
96-100						
101-105						
106-110						
111-115						
116-120						
Totals	16		99.8	16		87.3

TABLE IV-E

Frequency Distributions of Freshman Quality Point Average for College Discovery and Matched Open Admissions Students from Center III Attending Junior Colleges

	College Discovery			Open Admissions		
FQPA	N	%	Cum %	N	%	Cum %
0 - 5	5	5.3	5.3	5	5.3	5.3
6 -10	2	2.1	7.4	6	6.0	11.3
11-15	8	8.5	15.9			
16-20	4	4.3	20.2	1	1.0	12.3
21-25	7	7.5	27.7	6	6.0	18.3
26-30	13	11.7	29.4	3	3.2	21.5
31-35	5	5.3	44.7	13	13.8	35.3
36-40	2	2.2	46.9	6	6.0	41.3
41-45	8	8.5	55.4	3	3.2	44.5
46-50	2	2.1	57.5	2	2.1	46.6
51-55	5	5.3	62.8	10	10.6	57.2
56-60	4	4.3	67.1	3	3.2	60.4
61-65	5	5.3	72.4	9	9.6	70.0
66-70	4	4.3	76.7	8	8.5	78.5
71-75	3	3.2	79.9	4	4.2	82.7
76-80	1	1.0	80.9			
81-85	5	5.3	86.2	7	7.5	90.2
86-90	4	4.3	90.5	5	5.3	95.5
91-95	3	3.2	93.7	3	3.2	98.7
96-100	2	2.1	95.8	2	2.1	100.8
101-105	3	3.2	99.0			
106-110						
111-115						
116-120						
Totals	94		99.0	94		100.8

TABLE IV-F

Frequency Distributions of Freshman Quality Point Average for College Discovery and Matched Open Admissions Students for Center IV Attending Junior Colleges

	College Discovery			Open Admissions		
FQPA	N	%	Cum %	N	%	Cum %
0 - 5				1	3.4	3.4
6 -10	1	3.4	3.4			
11-15	3	10.3	13.7	2	6.8	10.2
16-20	2	6.8	20.5	1	3.4	13.6
21-25	3	10.3	30.8	1	3.4	17.0
26-30	1	3.4	34.2	5	17.0	34.0
31-35	2	6.8	41.0	4	13.6	47.6
36-40	2	6.8	47.8	2	6.8	54.4
41-45	3	10.3	58.1			
46-50	6	20.6	78.7			
51-55						
56-60	1	3.4	82.1	2	6.8	61.2
61-65						
66-70				7	24.1	85.3
71-75						
76-80	2	6.8	88.9	4	13.6	98.9
81-85						
86-90	1	3.4	92.3			
91-95	1	3.4	95.7			
96-100						
101-105						
106-110						
111-115	1	3.4	99.1			
116-120						
Totals	29		99.1	29		98.9

TABLE IV-G

Frequency Distributions of Freshman Quality Point Average for College Discovery and Matched Open Admissions Students from Center V Attending Junior Colleges

	College Discovery			Open Admissions		
FQPA	N	%	Cum %	N	%	Cum %
0 - 5	2	4.8	4.8	6	14.2	14.2
6 -10				2	4.8	19.0
11-15				1	2.4	21.4
16-20	2	4.8	9.6	1	2.4	23.8
21-25	5	11.9	21.5	3	7.1	30.9
26-30	3	7.1	28.6	5	11.9	42.8
31-35	4	9.6	38.2	2	4.8	47.6
36-40	4	9.6	47.8			
41-45	1	2.4	50.2	2	4.8	52.4
46-50	5	11.9	62.1			
51-55	3	7.1	69.2	10	23.8	76.2
56-60	2	4.8	74.0	5	11.9	88.1
61-65	4	9.6	83.6	3	7.1	95.2
66-70	1	2.4	86.0	1	2.4	97.6
71-75	2	4.8	90.8			
76-80	1	2.4	93.2			
81-85	1	2.4	95.6	1	2.4	100.0
86-90						
91-95	1	2.4	98.0			
96-100						
101-105						
106-110						
111-115						
116-120	1	2.4	100.4			
Totals	42		100.4	42		100.0

TABLE IV-H

Frequency Distributions of Freshman Quality Point Average for College Discovery and Matched Open Admissions Students from Center I Attending Senior Colleges

	College Discovery			Open Admissions		
FQPA	N	%	Cum %	N	%	Cum %
0 - 5	1	4.5	4.5			
6 -10				1	4.5	4.5
11-15	4	18.0	22.5	1	4.5	9.0
16-20	2	9.0	31.5	3	13.6	22.6
21-25						
26-30	3	13.6	45.1	1	4.5	27.1
31-35				3	13.6	40.7
36-40				1	4.5	45.2
41-45	1	4.5	49.6	1	4.5	49.7
46-50				4	18.0	67.7
51-55	2	9.0	58.6			
56-60				1	4.5	72.2
61-65				4	18.0	90.2
66-70				1	4.5	94.7
71-75	4	18.0	76.6			
76-80				1	4.5	99.2
81-85	1	4.5	81.1			
86-90						
91-95	1	4.5	85.6			
96-100						
101-105	1	4.5	90.1			
106-110	1	4.5	94.6			
111-115	1	4.5	99.1			
116-120						
Total	22		99.1	22		99.2

TABLE IV-I

Frequency Distributions of Freshman Quality Point Average for College Discovery and Matched Open Admissions Students from Center II Attending Senior Colleges

	College Discovery			Open Admissions		
FQPA	N	%	Cum %	N	%	Cum %
0 - 5	4	11.7	11.7	1	2.9	2.9
6 -10	1	2.9	14.6			
11-15				2	5.8	8.7
16-20				1	2.9	11.6
21-25	2	5.8	20.4	5	14.7	26.3
26-30	2	5.8	26.2	3	8.8	35.1
31-35	5	14.7	40.9	5	14.7	49.8
36-40	5	14.7	55.6	4	11.7	61.5
41-45	2	5.8	61.4	3	8.8	70.3
46-50	2	5.8	67.2	6	17.6	87.9
51-55				2	5.8	93.7
56-60	1	2.9	70.1			
61-65	4	11.7	81.8			
66-70						
71-75	2	5.8	87.6			
76-80	1	2.9	90.5			
81-85	2	5.8	96.3			
86-90				2	5.8	99.5
91-95	1	2.9	99.2			
96-100						
101-105						
106-110						
111-115						
116-120						
Totals	34		99.2	34		99.5

TABLE IV-J

Frequency Distributions of Freshman Quality Point Average for College Discovery and Matched Open Admissions Students from Center IV Attending Senior Colleges

	College Discovery			Open Admissions		
FQPA	N	%	Cum %	N	%	Cum %
0 - 5	3	6.7	6.7	2	4.4	4.4
6 -10	5	11.1	17.8			
11-15	4	8.9	26.7	2	4.4	8.8
16-20	2	4.4	31.1	2	4.4	13.2
21-25	5	11.1	42.2	2	4.4	17.6
26-30	5	11.1	53.3			
31-35	6	13.3	66.6	6	13.3	30.9
36-40	2	4.4	71.0	2	4.4	35.3
41-45	2	4.4	75.4	3	6.7	42.0
46-50	1	2.2	77.6	4	8.9	50.9
51-55	2	4.4	82.0	1	2.2	53.1
56-60	2	4.4	86.4	3	6.7	59.8
61-65	2	4.4	90.8	5	11.1	70.9
66-70	2	4.4	95.2	4	8.9	79.8
71-75				3	6.7	86.5
76-80	2	4.4	99.6	2	4.4	90.9
81-85						
86-90						
91-95				1	2.2	93.1
96-100						
101-105						
106-110						
111-115				1	2.2	95.3
116-120				2	4.4	99.7
Totals	45		99.6	45		99.7

TABLE IV-K

Frequency Distributions of Freshman Quality Point Average for College Discovery and Matched Open Admissions Students from Center V Attending Senior Colleges

	College Discovery			Open Admissions		
FQPA	N	%	Cum %	N	%	Cum %
0 - 5						
6 -10	3	5.6	5.6	10	18.8	18.8
11-15	1	1.9	7.5	1	1.9	20.7
16-20	2	3.8	11.3	1	1.9	22.6
21-25	3	5.6	16.9	3	5.6	28.2
26-30	5	9.4	26.3	10	18.8	47.0
31-35	7	13.2	39.5			
36-40	5	9.4	48.9	7	13.2	60.2
41-45	1	1.9	50.8	1	1.9	62.1
46-50	2	3.8	54.6	2	3.8	65.9
51-55	4	7.6	62.2	2	3.8	69.7
56-60	2	3.8	66.0			
61-65	3	5.6	71.6			
66-70	2	3.8	75.4			
71-75	4	7.6	83.0	4	7.6	77.3
76-80	4	7.6	90.6	7	13.2	90.5
81-85	2	3.8	94.4	1	1.9	92.4
86-90	1	1.9	96.3	1	1.9	94.3
91-95	1	1.9	98.2			
96-100	1	1.9	100.1			
101-105				3	5.6	99.9
106-110						
111-115						
116-120						
Totals	53		100.1	53		99.9

OBSERVATIONS AND RECOMMENDATIONS

From numerous observations it is patently obvious that the administrators and coordinators in this program have demonstrated zealousness toward their activities and a reasonable degree of competence in undertaking a very difficult task. Regardless of who had these administrative positions existing structural problems might inhibit the realization of many project goals. Cited below are descriptions of the more egregious problems and several suggestions for possible solution.

Perhaps the most fundamental problem that besets the program is the general question of articulating goals. At almost any level from students to guidance counselors, teachers and coordinators, project goals are not clearly understood. There is, of course, one disclaimer: the apparent consensus on emphasizing basic skills. Yet despite all the memos and meetings certain basic issues remain ambiguous. For example, is this a college preparatory program for underachieving students who have demonstrated the capacity for academic work or is it a remedial assistance effort designed to improve basic skills for students who may not have aspirations for college study? The matter is by no means academic. If planning is to be conducted and resources reasonably distributed this matter is critical. Yet with changing state guidelines for this project, the matter remains unresolved and it appears to have negative ramifications for morale and implementing stated objectives.

As the program is presently described and, to some extent organized, there are at least eight discrete activities (See Appendix II)associated with the project. Yet considering conditions in the schools and the interests

of the target population, it is worth asking whether goals should continue to be dispersed or whether efforts should be concentrated. Of course, any answer is dependent on objectives, but from the perspective of this evaluator the present conduct of the program suggests a concentration on those academic skills that are most useful for college study and the subordination of those goals, e.g. cultural activity, improving self-image, that are less directly related to college work.

Just as resources cannot be logically dispensed without some idea of goals, the selection of students is constrained by the same question. Should students be selected because of some demonstrated skills, or some problem that requires remediation? Should they be those identifiable as "college types" or simply students requiring assistance? Should selection be on a quota basis or random selection? In most cases students are presently selected by guidance counselors from feeder schools. Many of the participants see the method of selection as arbitrary.* Many students (along with their parents) are not eager to opt for several C.D.D. schools because of their location in problem areas. In fact, most junior high school students who discussed their plans for C.D.D. were unsure of what special assistance the program provides. In this instance even when the school is located in a desirable area, potential student applicants do not know what to expect.

This condition holds true even though students and their parents have been oriented to the nature of the program before and during the period of application. Perhaps a follow-up of the period of application would be desirable to ascertain

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*According to the administration of the C.D.D. program, selection is arbitrary only insofar as the student must meet Title I criteria. Nothing else is arbitrary about method, quality, and nature of selection.

if parents and students understand what the program is about and what the options and limitations of the program are.

Also, the possiblilty exists that the changing emphases under Title I ESEA may be confusing to feeder schools viewing the College Discovery and Development Program in its earlier context. This confusion probably is passed along to both students and parents. These conditions are likely to remain unaltered as long as confusion exists as to the purpose of the program.

The student performance on the M.A.T. tests suggests several operational decisions. Incremental improvement on the reading scores, despite all the already identified caveats, indicates this area is among the most notable in the project and whatever emphasis exists should be continued. It also seems reasonable, even though math scores are very tentative, to encourage C.D.D. students to take at least three years of mathematics.

However priorities are established in the program, the C.D.D. administrators should continue to avail themselves of services provided by the City University. What might be useful is a thorough analysis of the available data on C.D.D. students so that decisions regarding the program may be concretized.

It is undoubtedly useful in this context to discuss the role of a special program in a conventional school setting. From the interviews it is clear that some resentment was engendered by the perceived "special treatment." Nonetheless, it is equally clear that the lower drop-out rate in the C.D.D. program can be attributed to its special character and perhaps the camaraderie established by separating a group from the mainstream. This procedure may indeed encourage some coddling, but if a simultaneous consequence is a positive regard for education, it is a small price to pay for a major benefit.

Emanating from these observations and conclusions are the following recommendations, most of which are repeated elsewhere in this report.

1. A special concerted effort should be made to identify the main purpose(s) of this project and to act and spend according to these goals;
2. Meetings of C.D.D. administrators and City University personnel should take into account already existing data on C.D.D. students;
3. A greater emphasis should be placed on math skills, while matters unrelated to basic skills should be subordinated or underemphasized;
4. The selection of students should be based on standard criteria that are consistent with the stated objectives of the program;
5. Tutorial assistance, particularly in academic subjects, should be provided for all C.D.D. students;
6. Closer coordination between the City University and the C.D.D. program should be established so that a clear idea of university expectations can have a bearing on the present C.D.D. curriculum and decision-making process.
7. It is recommended that this project, notwithstanding the criticism and results of the data, and assuming that the above recommendations are implemented, should be recycled. The merits of this argument warrant no other decision.

APPENDIX I

INTERVIEW SCHEDULE

1) Describe your activities in the C.D.D. program.

2) What special provisions if any are made for C.D.D. students?

3) How would you assess the performance of C.D.D. students compared to their counterparts in regular classes?

(2)

4) What contribution, if any, does this program offer?

5) How would you gauge student reactions to the program?

6) In your opinion, is the target population capable of college work after the completion of this program?

(3)

7) What major problems, if any, have you encountered?

8) Is it desirable to have C.D.D. students segregated from the rest of the high school population? If so, why?

9) What is your general impression of the program?

(4)

10) What do you consider the primary result of the program?

11) What aspects of this program need improvement or more administrative attention?

A program can be described in many ways. We would like to know what you think this program should be doing, not what it actually does. Next to each item below, circle the number that best describes functions in Project Discovery.

Functions	Response code (1) a very important function (2) an important function (3) a routine function (4) unimportant (5) not appropriate				
	(circle the most appropriate response)				
1. improving reading skills.	1	2	3	4	5
2. improving math skills	1	2	3	4	5
3. improving student knowledge of social studies.	1	2	3	4	5
4. improving student knowledge of literature.	1	2	3	4	5
5. improving student knowledge of science.	1	2	3	4	5
6. developing foreign language skills.	1	2	3	4	5
7. preparing students for college level work.	1	2	3	4	5
8. offering remedial assistance in basic skills.	1	2	3	4	5
9. improving student self-image.	1	2	3	4	5
10. developing an appreciation of the arts.	1	2	3	4	5
11. developing those study habits necessary to do college work.	1	2	3	4	5

(2)

12.	creating a sense of cultural identity.	1	2	3	4	5
13.	introducing students to college admissions procedures.	1	2	3	4	5
14.	improving student attendance rates.	1	2	3	4	5
15.	offering students special guidance counseling.	1	2	3	4	5
16.	generating a sense of community within a school.	1	2	3	4	5
17.	improving student retention rate.	1	2	3	4	5

APPENDIX II

EVALUATION DESIGN FOR
COLLEGE DISCOVERY AND DEVELOPMENT PROGRAM
OFFICE OF HIGH SCHOOLS

B/E #0939610 - ESEA Title I

Prepared by

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School Research Associate

September, 1972

Dr. David A. Abramson, Director (Act.)

I. PROJECT DESCRIPTION

This program is designed for educationally disadvantaged students, who evidence academic deprivation and undeveloped potential. These students have in some instances been identified by their feeder school counselors and/or by community agencies, as potential dropouts. The students in this program receive individual attention through small class size (10 - 20 students per class). There is special emphasis on reading and mathematics. The students remain blocked in major subjects (mathematics, foreign language, science and English), for their initial year in the program. Afterwards, as indicated by their individual needs and abilities, they enter the mainstream of the school.

There is a tutorial program before and after regular school hours, for those children needing extra help. The tutors are students within the host school, who are trained and supervised by the center coordinator. These student trainees are paid on an hourly basis for their services. Each school will have 30 of these student aides. In addition to this program of extra help for the students in the COOP, there are other forms of academic and cultural enrichment for the disadvantaged pupils. These pupils are exposed to various cultural activities such as the theatre, museums, concerts, etc.

There will be, under this program, five concurrent CDD programs throughout the city for the school year 1972-73. They will take place at Roosevelt High School in the Bronx, Thomas Jefferson High School in Brooklyn, Seward Park High School in Manhattan, Jamaica High School in Queens and Port Richmond High School in Staten Island. By and large, each development center operates as a school within a school unit, which allows for flexibility of programming and blocking. The approximate overall student population of the program is 1500, broken down in grades as follows: Grade 10 - 560 students; Grade 11 - 520 students; Grade 12 - 420 students.

Each of the five school programs will include the following staff: 1 teacher, who coordinates the program of the center, and is designated as the teacher-in-charge; teachers; (Seward will have 17 teachers, Jefferson will have 18 teachers, Roosevelt will have 16 teachers, Jamaica will have 15 teachers and Port Richmond will have 15 teachers);three guidance counselors; 10 student aides; 2 family assistants; and finally, 1 project coordinator, who will serve as the administrator of the whole program, at central headquarters. There will be a staff ratio of 1:8.

The College Discovery and Development Program is a jointly sponsored project, between the New York City Board of Education and The City University of New York. The program attempts to prepare the underprivileged student for college. The City University furnishes the following services for the CDDP: a) central CUNY administrative services including budget and fiscal; b) supply and equipment, c) college work study tutor payroll; 4) staff development services provided by college faculty on weekly part-time assignments during the college year; e) institutes, workshops, tutor orientation and training program; f) recruitment of nominees for the program and review of student applications.

II. OBJECTIVES OF THE PROJECT

1. To raise the level of achievement of the students participating in the program.

2. To improve grade level in reading and/or mathematics.

3. To improve basic learning skills.

4. To improve the level of attendance and retention of the students participating in the program.

5. To improve student attitude regarding self, achievement, aspiration, culture and the arts, and school.

6. To improve awareness of students in the program about culture and the arts.

7. To improve possibilities for college admission and for college retention.

III. OBJECTIVES OF EVALUATION

The Evaluation Objectives have been completely revised and reduced to four in number.

A. Evaluation Objective 1 - It is anticipated that there will be a difference, significant at the .05 level, between real and anticipated gains in achievement among CDD students.

Subjects - Students in 10th, 11th and 12th grade CDD classes, (i.e., Title I funded) in each high school center. Estimated total enrollments by center and grade level are:

CDD Center	Grade 10	Grade 11	Grade 12
I	110	110	102
II	105	110	72
III	125	102	106
IV	130	117	75
V	90	81	65
TOTAL	560	520	420

Citywide CDD enrollment in major subject areas is estimated as follows:

Major Subject	Estimated Total CDD Enrollment
English	1500
Mathematics	1400
Foreign Language	1100
Natural Science	1000
Social Studies	800

Methods and Procedures - Selected subtests (Reading, Mathematics, Science and Social Studies) of the Iowa Tests of Educational Development, published by SRA will be administered. First year foreign language students will be given the Pimsleur Language Aptitude Battery as a pretest and the Pimsleur Modern Foreign Language Proficiency Tests as posttests. The Modern Language Association Cooperative Foreign Language Tests in Spanish and French will be given to second and third year language students. For each score for each student there will be computed the pretest, anticipated posttest and real posttest achievement rates. The distribution of anticipated and real achievement rates will be presented.

Statistical and Qualitative Analysis - For each subject area and level a t-test of the difference between the means will be computed to determine whether the real gains are significantly greater at the .05 level than the anticipated gains.

Time Schedule - Pretests will be administered during October, 1972 and posttest during May, 1973.

B. Evaluation Objective 2 - a) It is anticipated that from the ninth to twelfth grades there will be a difference, significant at the .05 level, in the attendance rates of CDD as compared to non-CDD students.

b) It is anticipated that the dropout rate will be lower for CDD students than for non-CDD students, significant at the .05 level.

Subjects - Experimental group: Estimated CDD Program enrollment in the five centers (N = 1500). Control group: Total tenth, eleventh, and twelfth grade population of each CDD host school (excluding CDD students, if possible).

Methods and Procedures - Attendance rates and school dropout rates for CDD students will be obtained from student records or from the CDD Program office. Attendance rates and school dropout rates for the total school population will be obtained from the Bureau of Educational Program Research and Statistics. The percentage difference between rates from one grade to the following (ninth to tenth, tenth to eleventh and eleventh to twelfth) will be computed for CDD students and the total school. For both groups of twelfth grade students there will be computed three attendance rates: differences between grades nine and ten, ten and eleven, and eleven and twelve. For eleventh grade students there will be two attendance rates: differences between grades nine and ten, and ten and eleven. For tenth grade students, one difference -- ninth to tenth.

A similar procedure will be used to determine dropout rates and annual differences in dropout rates for the two groups.

Statistical and Qualitative Analysis -

a) It is not meaningful to compare CDD rates in ninth grade prior to program entrance and rates for the same students at the end of each year as the group travels through the program. Previous studies of attendance have indicated that as students (regardless of program or academic ability) progress through high school their absences increase. In order to determine whether the attendance rates of CDD students have improved it is necessary to establish the expected or "normal" rate. The technique proposed in the present evaluation uses the performance of the total school population (matched for grade level with CDD students) as the expected or "normal" attendance rate. By applying a t-test for percentages to the difference between the attendance rates for each grade level it will be possible to determine whether CDD students demonstrate better attendance performance than the total school, at a significance level of .05.

b) A t-test based on percentage differences in dropout rates will be computed by grade level between the experimental and control groups to determine whether the rate for CDD students is significantly lower, at the .05 level, than the total school.

Time Schedule - Attendance and school leaving data will be collected for performance prior to the present year in November, 1972 and for the present year in June, 1973.

C. Evaluation Objective 3 - It is anticipated that there will be a correlation, significant at the .05 level, between attendance and achievement for CDD and total school (non-CDD) population.

Subjects - All CDD students for whom achievement test data (see Objective #1) and attendance data (see Objective #2) are obtained.

Methods and Procedures - Using the percentage difference in annual attendance rate for the total school as the base (see Objective #2), determination will be made whether each CDD student's rate is improved or not improved. A determination will also be made of the difference between real and anticipated posttest reading achievement rates as determined for the evaluation of Objective #1.

Statistical and Qualitative Analysis - A point-biserial correlation will be computed between the attendance rate (dichotomous variable) and the reading achievement rate (continuous variable) for each CDD grade level and center. A t-test of significance will be applied to the correlation to determine whether there is a difference, significant at the .05 level, between improvement in attendance and improvement in achievement among CDD students.

Time Schedule - (See Objectives #1 and 2)

D. Evaluation Objective 4 - It is anticipated that there will be a difference, significant at the .05 level between CDD and Open Admissions students enrolled in units of The City University in a) college retention rates and b) college grade point averages.

Subjects - Experimental group: CDD students in classes I through IV who entered units of The City University as freshmen in September, 1968, 1969, 1970, and 1971. Control group: Students enrolled under the Open Admissions Program who entered units of The City University as freshmen in September, 1970 (the first year of the Open Admissions Program and the only year for which retention and achievement data are currently available). CDD enrollment figures are as follows:

CDD Class	College Entrance	Unit of The City University: Senior College	Community College	Total
I	Fall, 1968	41	201	242
II	Fall, 1969	20	174	194
III	Fall, 1970	70	66	136
IV	Fall, 1971	114	100	214

Methods and Procedures - CDD and Open Admissions students from the same high school will be matched on high school grade point average, so that group means are comparable. To control for the possibility that averages may have been earned in course subjects which differ in difficulty, the number of academic units earned by each subject will be determined. Because 34 is the minimum number of academic (Regents) units necessary to quality for an academic diploma, the number of students in each group who earned 34 or more and those who earned less than 34 academic high school units will be obtained.

a) A computation will be made of the percentage of each of the four classes of CDD college entrants who dropped out of college by June of the freshman year. The same computations will be made for Open Admissions students.

b) A calculation will be made of the freshman quality point average (G.P.A.x credits earned) for the four experimental and one control groups. Frequency distributions of quality point averages will be compiled for each of the five groups. A cutoff will be determined in order to group the distribution into two categories.

Statistical and Qualitative Analysis -

a) For each CDD center a 2 x 2 chi-square test will be applied to determine the relationship between college retention (dropouts) and high school academic units for CDD and OA students from the same high school and matched on high school grade point average. Separate chi-squares will be computed for each of the four CDD classes and the OA class of 1970-1971.

b) For each CDD center a 2 x 2 chi-square test will be applied to determine the relationship between college achievement (freshman quality point average) and high school academic units for CDD and OA students from the same high school and matched for high school grade point average. Separate chi-squares will be computed for each of the four CDD classes and the OA class of 1970-1971.

Time Schedule - Enrollment figures and quality point averages will be obtained from the CDD office of The City University in December, 1972. The statistical analyses will be completed in January, 1973.

APPENDIX III

Revised Evaluation Objectives

Evaluation Objectives:

1. It is anticipated that there will be a difference significant at the .05 level, between real and anticipated gains in achievement amoung CDD students.

Methods

A comparative examination of the M.A.T. test administered in January, 1973 and a posttest to be administered in late May will be conducted. The total CDD population will be tested for reading achievement and a random sample for math. For each student score there will be a computed pretest, anticipated posttest and real posttest achievement standard. The distribution of real and anticipated achievement rates in each subject will be compared with a t-test of the difference between the means to determine whether the real gains are significantly greater at the .05 level than the anticipated gains.

It should be noted that in the computation of math pretest rates, previous M.A.T. scores will be utilized. The evaluator realizes that since this score may have been the result of a test taken two years ago, intervening variables may account for student achievement rather than participation in the CDD program. Yet even with this caveat more trends are likely to appear in the results than an analysis without any pretest at all. Furthermore, the limited time between pre- and posttests for those proficiency exams originally proposed makes it impossible to assess the possible impact of the College Discovery Program. It is therefore recommended that the use of selected subtests on the Iowa Tests of Educational Development and the Pimsleur Language Aptitude Battery be abandoned and the evaluation strategy cited above be adopted.

2. No change is proposed for this objective.

3. It is anticipated that there will be a correlation, significant at the .05 level, between attendance and achievement for the CDD and total school (non-CDD) population. Howevere, achievement will be measured on the basis of pre- and post- M.A.T. scores to conform to evaluation objective One (see above). A t-test of significance will be applied to the correlation between attendance rates and reading achievement scores to determine whether there is a significant statistical correlation between these two variables.

4. No change is proposed for this objective.