Performance Contracting as a Support System for Minority Graduate Students: A Feasibility Study

Monica Porter
Western Michigan University

Follow this and additional works at: http://scholarworks.wmich.edu/masters_theses
Part of the Psychology Commons

Recommended Citation
http://scholarworks.wmich.edu/masters_theses/1315

This Masters Thesis-Open Access is brought to you for free and open access by the Graduate College at ScholarWorks at WMU. It has been accepted for inclusion in Master's Theses by an authorized administrator of ScholarWorks at WMU. For more information, please contact maira.bundza@wmich.edu.
PERFORMANCE CONTRACTING AS A SUPPORT SYSTEM 
FOR MINORITY GRADUATE STUDENTS: 
A FEASIBILITY STUDY

by

Monica Porter

A Thesis
Submitted to the 
Faculty of the Graduate College
in partial fulfillment of the 
requirements for the
Degree of Master of Arts
Department of Psychology

Western Michigan University
Kalamazoo, Michigan
December 1986
This study analyzed the feasibility of implementing a performance-contracting program for black graduate students so they could achieve or maintain a grade-point average of a 3.0 or above. Students attended weekly contracting meetings where academic tasks and deadlines were identified and task completion was monitored. The total number of tasks assigned per student for the entire study ranged from 12 to 44, with a mean of 32.6. Task completion ranged from 42% to 100%, with a mean of 68.4%. Nine of the ten students achieved a semester grade point average of 3.0 or above, although the present study did not demonstrate that the contracting system was responsible for the grade point averages. Participants evaluated the program positively. This suggests that performance contracting is feasible for black graduate students.
ACKNOWLEDGEMENTS

I would like to thank Brian Yancey, Angela Williams and Mark Jackson for their friendship, support and guidance throughout my program. I would like to especially thank Brian Yancey for his additional help as a supervisor and as a friend. I am grateful to my advisor, Dr. Richard Malott, for agreeing to be my advisor and for his guidance and support.

I would like to thank Kenneth Perkins for believing in me when no one else did. I would like to thank God for giving me the strength to keep going, especially when I felt like giving up. Mostly, I would like to thank my family for always being there with their love, encouragement and endless support.

Lastly, I would like to thank the students who participated in my study, Irene Reynolds at the Writing Laboratory, and the professors who helped me structure my research.

Monica Porter
INFORMATION TO USERS

This reproduction was made from a copy of a document sent to us for microfilming. While the most advanced technology has been used to photograph and reproduce this document, the quality of the reproduction is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help clarify markings or notations which may appear on this reproduction.

1. The sign or “target” for pages apparently lacking from the document photographed is “Missing Page(s)”. If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure complete continuity.

2. When an image on the film is obliterated with a round black mark, it is an indication of either blurred copy because of movement during exposure, duplicate copy, or copyrighted materials that should not have been filmed. For blurred pages, a good image of the page can be found in the adjacent frame. If copyrighted materials were deleted, a target note will appear listing the pages in the adjacent frame.

3. When a map, drawing or chart, etc., is part of the material being photographed, a definite method of “sectioning” the material has been followed. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.

4. For illustrations that cannot be satisfactorily reproduced by xerographic means, photographic prints can be purchased at additional cost and inserted into your xerographic copy. These prints are available upon request from the Dissertations Customer Services Department.

5. Some pages in any document may have indistinct print. In all cases the best available copy has been filmed.

University Microfilms International
300 N. Zeeb Road
Ann Arbor, MI 48106

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Porter, Monica

PERFORMANCE CONTRACTING AS A SUPPORT SYSTEM FOR MINORITY GRADUATE STUDENTS: A FEASIBILITY STUDY

Western Michigan University M.A. 1986

University Microfilms International 300 N. Zeeb Road, Ann Arbor, MI 48106
# TABLE OF CONTENTS

**ACKNOWLEDGEMENTS** .......................................................... ii  
**LIST OF TABLES** .............................................................. v  
**LIST OF FIGURES** ............................................................. vi  
**CHAPTER**

I. **INTRODUCTION** ............................................................. 1  
   The Problem of Attrition of Black Graduate Students ............. 1  
   Students' Perspectives on Graduate Attrition .................... 5  
   Support Groups as a Solution to University Attrition .......... 5  
   Performance Contracting as a Solution to Black Attrition .... 7  

II. **METHOD** ................................................................. 12  
   Subjects ........................................................................... 12  
   Setting ............................................................................. 12  
   Dependent Variables ...................................................... 13  
   Procedures ....................................................................... 13  
   Experimental Design ....................................................... 18  

III. **RESULTS AND DISCUSSION** ......................................... 21  
   The Contracting Session .................................................. 21  
   The Study Center ........................................................... 24  
   Performance in Courses .................................................. 27  
   Social Validation Forms .................................................. 30  
   Cost Benefit Analysis of Performance Contracting ............. 32
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendations</td>
<td>35</td>
</tr>
<tr>
<td>An Assessment of the Evaluation</td>
<td>36</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>43</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>45</td>
</tr>
<tr>
<td>A. Individual Contracting Performances</td>
<td>46</td>
</tr>
<tr>
<td>B. Forms Used in the Performance System</td>
<td>50</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>54</td>
</tr>
</tbody>
</table>
## LIST OF TABLES

1. Population and College Data by Race, Sex an Age ............................................. 2
2. Individual Contracting Performance ................................................................. 22
3. Students' Final Course Grades. ....................................................................... 23
4. Group Performance During Phase Changes ....................................................... 28
5. Group Performance in Course. .......................................................................... 29
6. Social Validation Questionnaire. ...................................................................... 31
7. A Program Evaluation ..................................................................................... 37
8. Students' Compliance with Performance Contracting Procedures ......................... 47
LIST OF FIGURES

1. Performance Contracting ................... 25
CHAPTER I

INTRODUCTION

The Problem of Attrition of Black Graduate Students

In 1984, 14 percent of the black American population was between the ages of 18-24 years. Of those blacks in that age group, 19.5 percent were enrolled in college. In contrast, 12 percent of the white American population was in that age group; and 26.9 percent were enrolled in college (U.S. Bureau of the Census, 1984).

Also, in 1984, 50.4 percent of the black American population was 25 years or older. Of those blacks in that age group, only 10.4 percent had completed four years or more of college. In contrast, 61.2 percent of the white American population was 25 years or older. Of those whites in that age group, 19.8 percent had completed four years or more of college, which was about twice as high as the percentage of blacks (See Table 1).

These data suggest that blacks are under-represented in the professions because they are not acquiring college degrees. For example, Pruitt (1984) noted, "Blacks earned only 3.6 percent of the doctoral degrees conferred in 1982", (p. 107). Also, the Council on Interracial Books for Children, Inc. (1984) reported that in 1982 blacks constituted only five percent of the accountants, 2.4 percent of the engineers, 2.9 percent of the lawyers and judges, 2.5 percent of the dentists, 2.3 percent of the physicians, 4.8 percent of the
Table 1

Population and College Data by Race, Sex and Age

<table>
<thead>
<tr>
<th></th>
<th>Blacks</th>
<th>Whites</th>
<th>Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of persons in the U.S.</td>
<td>28.486</td>
<td>200.984</td>
<td>236.681</td>
</tr>
<tr>
<td>No. of persons between</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ages 18-24 years</td>
<td>4.011</td>
<td>24.231</td>
<td>29.123</td>
</tr>
<tr>
<td>No. of persons of age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 years over</td>
<td>14.369</td>
<td>123.103</td>
<td>140.794</td>
</tr>
<tr>
<td>No. of persons and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>percentage enrolled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>college between ages</td>
<td>0.786</td>
<td>6.526</td>
<td>7.591</td>
</tr>
<tr>
<td>18-24 years</td>
<td>19.500%</td>
<td>26.900%</td>
<td>26.000%</td>
</tr>
<tr>
<td>% of persons completing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 yrs. or more of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>college between ages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-up</td>
<td>10.400%</td>
<td>19.800%</td>
<td>19.100%</td>
</tr>
</tbody>
</table>

*(Data based for the year of 1984. In millions.)

college teachers, and 3.9 percent of the managers and administrators. Of the professionals, blacks constituted 4.3 percent, whereas, whites constituted 89.5 percent. All of the professions mentioned above require an advanced degree and black Americans are not obtaining the degrees necessary for them to enter the professional arena.

There are undoubtedly several reasons for the low percentage of blacks obtaining advanced degrees. One reason for the low percentage of blacks with advanced degrees is that only a small percentage of blacks enter graduate programs.

In 1978 there were 61,923 blacks enrolled in graduate schools in the United States. This number represents only 6.2 percent of the 1,076,980 graduate students in the nation. By contrast, in the same year the 891,727 white graduate students constituted 88.9 percent ... of the total enrollment in U.S. graduate schools. The number of black graduate students dropped to 60,138 or 5.9 percent of the total graduate enrollment in 1980. (National Center for Education Statistics, 1982, cited in Blackwell, 1983, p. 64)

Pruitt and Isaac (1985) stated, "Black student enrollment in graduate schools plunged from 65,326 in 1976 to 54,686 in 1982, a 16.3 percent decline" (p. 526).

The second factor for the low percentage of blacks obtaining advanced degrees might be the high attrition rate among those black students who do get admitted into the graduate programs. Direct data dealing with the attrition of black students in graduate programs are not available, but the high attrition rate of blacks in undergraduate programs would suggest that it is also an issue of serious concern at the graduate level. For example, Blackwell (1983) discussed strategies for improving the status of blacks in higher education. He stated that "Some institutions lose as many as 50 percent of the
black students between the first and second year. In some instances almost 80 percent of the freshmen students do not graduate within four years". (p. 62).

Blackwell also stated:

The twin problems of attrition and retention are carried over into the graduate and professional levels. For instance, it is estimated that more than forty percent of all black students enrolled in engineering degree programs, during the freshman year, drop out of these programs by the sophomore year. Further, blacks have a higher ... repeat rate (about 25 percent) than do other students enrolled in U.S. medical colleges. There is also evidence that many black graduate and professional school students scale down their aspirations for the most advanced professional graduate degree in their field and settle for something less. Some simply abandon the pursuit of advanced degrees altogether. Again, this situation has enormous implications for the availability of blacks to fill academic, administrative, executive and higher level managerial or professional positions when they do become available. (p. 63)

Blackwell's suggestions included allocations of financial and human resources, sustained support programs, re-examination of policies and practices of the admissions procedures, and improved advisory and counseling strategies.

If blacks are to be in the positions that will enable them to contribute to their communities and to the larger society, the problem of black attrition from graduate programs must be addressed. Therefore, the remainder of this chapter focuses on two issues. First, student perspectives on graduate attrition are briefly examined. Next, prior research on university-student attrition is presented. This chapter concluded with a rationale for the present study, an empirical analysis of the feasibility of a program to reduce attrition of black graduate students.
Students' Perspectives on Graduate Attrition

Jacks, Chubin, Porter and Connolly (1983) conducted telephone interviews with 25 Ph.D. graduate students (race was not given) who had completed all of their course requirements but had not completed their dissertations. The reasons these students stated for non-completion of their dissertations included insufficient financial support, dysfunctional relations with advisors, personal problems and lack of support from advisors and peers. However, these reasons should be viewed with some skepticism because the reasons stated were self-reports; there may have been little relationship between what people stated and why they actually dropped out.

Support Groups as a Solution to University Attrition

Researchers seem to agree that the high attrition rates of minority graduate students often result from a lack of support programs. Blackwell (1983) argues that there is a need for support programs. He stated that "any strategy that is designed to improve the overall status of blacks in higher education must be oriented toward dramatic reductions in attrition, and for the elimination of those structural barriers which interfere with college completion" (p. 63). Furthermore, Gitterman and Germain (1976) suggested that the support group "serves as a mutual aid system essential for adaptation and coping with stress" (p. 606). The authors also suggested "that the support group provides the means for identification and for specialization to the norms, values, knowledge and belief system of
the particular culture" (p. 606). Pruitt and Isaac (1985) stated that "because most graduate schools have low minority enrollments and few if any minority faculty members, minority students are apt to find themselves isolated in situations that lack both formal and informal support systems" (p. 534).

Williams, Gallas, and Quiriconi (1984) addressed the problem of dropouts among entering graduate students. They had entering graduate students complete a needs assessment in a form of a questionnaire, which confirmed that "the students would appreciate help in coping with their new environment" (p. 173). These researchers established a student support system, in the hopes of reducing stress and thereby improving grade-point averages. The pilot project consisted of eleven graduate students who were divided into one of the three groups which consisted of: (1) a student significant other group, (2) a control group, and (3) a student group. The authors failed to distinguish the differences between group one and group three; however, one was led to believe that those students in group one had a sort of mentor to help them in adjusting at the university. The students were given a pretest and a post-test of the Holmes-Rahe Social Readjustment Questionnaire, which estimated the students' level of stress. Groups one and three met for five sessions during the first quarter of graduate study. These sessions dealt with social networking which is important in adapting to graduate school. Stress seemed to have no effect on the grade point averages of the three groups. The stress level of the student significant other group and the control group increased, whereas, the stress level of the student group decreased.
The authors (Williams et al., 1984) said, "considering the importance of the social network, the offering of support groups would be yet another opportunity for growth in the graduate student's development process" (p. 174). In spite of the fact that the researchers failed to demonstrate that stress was relevant to grade point averages, they recommended using networking—preventive measures to "counter the detrimental effects of distress and prevent otherwise capable students from dropping out" (p. 174).

Performance Contracting as a Solution to Black Attrition

Performance contracting refers to a written agreement between the contractor and the contractee, an agreement that specifies the tasks to be completed and the consequence for task completion.

Ottens (1982) developed a guaranteed scheduling technique to treat students who procrastinated. Students contracted daily for the amount of time they were going to work on completing a specific task. Contingent on the successful completion of the tasks specified on at least four out of seven contracts per week, a student gave himself or herself desirable, tangible objects (e.g., record album, book) or a commonly-performed pleasurable activity (e.g., skiing, movie). The author reported that contracting was effective in improving the number of hours students studied per week. However, Ottens' study had many weaknesses. Ottens failed to state the age of the students. He also failed to mention whether or not the results were statistically
significant or how large the increase in studying was. In addition, student improvements were self-reports and, therefore, may not have been reliable.

Several researchers studied the effects of behavioral contracting on grade point averages (GPAs) of undergraduate students on academic probation (Himelstein & Himelstein, 1977; Hudesman, Avramides, Love-day, Waber, and Wendell, 1983). Himelstein & Himelstein implemented a pilot project using behavioral contracting for community-college students who were on academic probation. The contracts included the amount of time spent studying in the campus library and in an off-campus location. The student met with the program director bi-weekly to discuss how they were meeting the terms of the agreement. Himelstein & Himelstein found that the academic performances of the students improved compared to the previous semester's academic performances. The closer the student came to meeting the terms of the contract, the greater the change in GPA. However, they did not include any statistical analysis of the project, but they stressed the importance of using reinforcers in future projects of this sort.

Hudesman et al. (1983) set up an academic agreement form for 70 college students on academic probation who had low high school grade point averages and were from low-income families. Minorities made up 85 percent of these students. The academic agreement form listed the overview of the program and also listed the referrals to other academic counseling programs the students were to attend. Forty-seven of these students were assigned to an experimental group, and 23 were assigned to a control group, though it was not indicated whether this
assignment was random. The students in both the control and the experimental group reported back to the counselor after 3 to 4 weeks with all of their graded materials (i.e., tests, homework assignments, etc.). Appropriate suggestions were discussed for improvements and written on the academic agreement form. The only differences between the two groups were the services; however, the author failed to mention what the services included. Hudesman et al. found no difference in mean GPA between the groups in the pre-treatment semester (X̄=1.316 and X̄=1.113, t(69)=0.936, p>0.05), but the experimental-group mean GPA increased from the pre-treatment to the post-treatment (X̄=1.316, and X̄=1.688, t(46)=2.520, p>0.05). There was no increase in the mean GPA from pre-treatment to post-treatment for the control group (X̄=1.113, and X̄=1.259, t(22)=0.680, p>0.05). The academic agreement group was higher than the control group on the post-test GPA (t(68)=1.727, p>0.05; one-tailed test). The pre- and post GPA difference scores were higher for the academic agreement group than for the control group (Mann Whitney U test, z=1.701, p>0.05, one tailed test).

In the past, many researchers have studied various factors for non-completion of programs for undergraduates. Limited research has been conducted on issues concerning non-completion for graduate students. A major factor which makes it difficult to obtain the number of students who have not completed their graduate program is that at many universities, a student has up to six years to complete a Masters degree and fourteen years to complete a Ph.D. But research has been
conducted on helping graduate students complete their degrees in the least amount of time possible.

Dillon and Mallott (1981) compared a traditional system for the supervision of master's thesis and doctoral dissertation research to a behavioral system of supervision. The behavioral supervisory system consisted of five components: (a) specification of research-tasks and performance standards, (b) weekly meetings with a supervisor, (c) deadlines, (d) feedback and (e) incentives. Dillon and Malott reported that "Under the Behavioral--System, a greater percentage of MA admittees graduated (81% compared to 57% for other departmental students), and they did so on less time (a median of 20 months compared to 28 months, a reduction of two semesters). The MA students in this system rated more highly the quantity and quality of research-supervision than did MA students under the Standard-System" (p. 198). The quality of thesis and dissertation research was rated by the student's orals committee. The quality of the students' theses and dissertations in the behavioral supervisory system was rated just as high as the quality of the students' theses and dissertations in the traditional supervisory system.

A possible method for reducing the rate of attrition for black graduate students could be a behavioral supervisory system, somewhat like the Dillon and Malott (1981) system but aimed at course work. Because the procedures had a substantial impact on the completion of the graduate students' theses and dissertations, it seemed reasonable that a similar performance contracting procedure might have the same impact on the students' performances in their courses.
Therefore, the present study was a systematic replication of Dillon and Malott study. The major difference in this study from the Dillon and Malott's study was that this system dealt with course-related tasks, whereas, Dillon and Malott's system dealt with tasks related to the completion of theses and dissertations. Also, the performance contracting system was implemented with predominately black rather than white graduate students, and daily and hourly deadlines were specified for task completion rather than the weekly deadlines in Dillon and Malott's system.

The purpose of this performance contracting system was to help black graduate students achieve and maintain good grades, hopefully reducing black graduate attrition. This study was a preliminary study to evaluate the technical and logistical feasibility of a black graduate student implementing a program of this sort to help other black graduate students. Several additional studies may be needed to develop such a support system to a demonstrably effective level.
CHAPTER II

METHOD

Subjects

Ten students from the graduate program of the Department of Psychology at Western Michigan University, Kalamazoo, Michigan participated in this experiment. Eight of these students were black and two were white. The experimenter, who was also black, actively recruited the participation of other black students but did not exclude white students who wanted to participate. The students' ages ranged from 22 to 30 years, with a mean age of 24. Four males and six females volunteered to participate. Two of the black participants were Ph.D. candidates; the remaining were M.A. candidates. Each of the students had an overall grade-point average of a 3.0 or above. The students read and signed an informed consent form, which stated that their academic performance would be kept confidential and that they could withdraw from the study at any time.

Setting

Individual performance-contracting meetings were held in an office located at Western Michigan University. A study-center (classroom containing study carrels) was adjacent to the office. The study-center was used to provide a quiet atmosphere with limited distractions in which students could study, and where the performance contractor could
monitor the students' performances. The office and study-center were in the building housing the psychology department.

Dependent Variables

The primary dependent variables were: (a) the percentage of tasks completed, (b) the percentage of hours spent in the study-center, and (c) the percentage of attendance to the weekly contracting meetings.

In the development and evaluation of the support system, the students' performances on their tests, quizzes, and papers in their courses were secondary dependent variables, though they were the dependent variables of ultimate concern.

Reliability checks on completed tasks occurred five days a week. Each day, students brought in the assignments they had contracted to complete. The assignments were brought in by the students at different times during the day, depending on the time specified on the student's contract for a given task. The experimenter also served as the performance contractor.

Procedures

Contracting Session

Individual contracting sessions were held once a week and lasted between 45 minutes and an hour per student. The first part of the contracting session involved reviewing proofs of accomplishments. The performance contractor then calculated the students' weekly and cumulative contracting percentages and reviewed the task completion performances with the students. The performance contractor praised the
students' improved, and steadily performances (e.g., 80 percent or
ter). The third part of the session consisted of a review of stu-
dents' performances on tests, quizzes, and written assignments. This
was done so that the contracting procedures could be modified weekly
instead of monthly when the monthly feedback forms were received from
the professors. Finally, a new contract was completed, specifying
upcoming tasks and daily or even hourly deadlines for the tasks to be
completed. At the end of the contracting session, both the experi-
menter and the student made a copy of the new contract (see Appendix
B).

Targeted Tasks

Tasks assigned in the students' courses were targeted for perfor-
mance contracting. These tasks included chapter readings, written
assignments, and projects. These tasks were specified and written on
the contracts. For example, suppose a student was assigned to read
three chapter in his or her psychology course. As proof of accomplish-
ment that the student had indeed read the chapters, he or she was
required to put relevant definitions on flashcards (3x5 index cards)
with the term on one side and the definition on the back side. Each
chapter assigned to the student was considered one task. In addition,
students contracted to complete papers and projects. These large tasks
were divided into several small, more manageable sub-tasks. Each
sub-task was then treated as a task for the purpose of data analysis
and point contingencies. For instance, a student might contract for a
reference list one week, and the outline of the paper on the second
week. In this way, students avoided waiting until shortly before these large papers and projects were due to begin working on them. If the students did not complete some of the sub-tasks which they had contracted, then they usually contracted to complete them the following week.

**Deadlines**

Each task was given a date for completion. Assigned tasks were verified by the performance contractor on the date and time specified on the contract. After checking the assigned tasks, the performance contractor recorded whether or not those tasks were completed. Students either received all of the possible points for task completion, or no points. This method was used because students typically contracted to complete their weekly assignments on the day the assignments were due in their classes. Therefore, if the assignments were not completed by the assigned date, the student not only turned in a late assignment to the professor but was also penalized by not receiving any contracting points.

A student could earn a total of 50 points per contract. Ten points were given for attending the contracting meeting, thirty-five points could be earned for all tasks completed (points were divided evenly among tasks), and a total of five points could be earned for studying five hours a week in the study-center.
Study Center

Each student was required to spend at least five hours a week in the study center. Students could study on different days or for five hours in one day. The study center was already operating as a part of another program. That program involved monitors who were undergraduate students monitoring accomplishments produced in the study-center as part of their practicum work. In the study-center, students were to complete tasks specified on their contracts. Students were required to complete a study center verification form upon entering the center. All study center forms were verified by a monitor who recorded the number of hours spent in the center and whether or not the task specified on the verification form was completed (see Appendix B).

Incentives

Five possible incentives were used in this research. The first incentive involved letters of recommendation by the experimenter's faculty advisor. Seven of the ten students in this study were also the advisees of that faculty advisor. The letter of recommendation would mention the student's percentage of task completion and could be used for employment or application to graduate school. Completed course work and course grades also seemed to serve as incentives for continued task completion. The third incentive was social praise given to the students by the experimenter. Praise was given at the specified deadline, if the task contracted for was completed, and also at the contracting meetings, if the student performance remained at a high
steady level or had improved. Finally, monthly feedback from the students' professors on their academic performance may have functioned as a type of incentive.

Avoidance Procedure

As a supplemental contract, the two white female students agreed to pay the performance contractor a dollar for each task not completed. These students volunteered to participate in this avoidance procedure, in an effort to improve their low rate of task completion. The students contracted to complete a certain number of tasks for the next meeting with the understanding that, for every task not completed, they would owe one dollar. At the next contracting meeting, if the students did not complete the contracted tasks, they paid a dollar per non-completed task and those tasks were reassigned along with new tasks. At the third contracting meeting, the students could earn all of their money back, if they completed all of the contracted tasks. However, if the students did not complete all of the contracted tasks by that week, they once again owed a dollar for each task not completed, and from then on, they could only receive half of the money back. The additional money the performance contractor collected was to be donated to the scholarship fund of the Black Psychology Student Association; however, both students always earned back all of their lost money on the second attempt.
Feedback Forms

Once a month, with the permission of the students, feedback forms were sent to their instructors. There were a total of 22 forms per month. The feedback forms requested the instructors to indicate each student's: (a) attendance, (b) test and quiz scores, (c) grades on written assignments (term papers), and (d) the present grades they were receiving in the course. All feedback forms were reviewed by the performance contractor and the student during the contracting session. Future contracting procedures were modified by including more defined and targeted tasks to assist in the improvement of the students' performances in their courses (see Appendix B).

Experimental Design

The experimental design was a BAB design. The B condition (treatment) consisted of performance contracting, study-center hours, letters of recommendations, feedback forms, avoidance procedure, and social praise. The A condition (no treatment) consisted of none of the treatments in the B condition except for the feedback forms (students' performances in their courses were still monitored). This design was chosen so that the last condition (contracting) could be in effect during the last weeks of the semester; thus for ethical reasons, the experimenter chose to end the experiment with contracting so that the students could utilize the contracting to help prepare them for their final examinations.
At the beginning of the no-contracting condition, the students were told that the contracting meetings were cancelled until further notice. The students were also told by the performance contractor that they were not required to complete a performance contract, but if they desired to continue completing performance contracts, they were to fill out the contract and put it and the completed tasks into the performance contractor's mailbox. The students were also informed that they were no longer required to study in the study center, but if they chose to continue studying in the study center, then they should continue to complete the study center verification forms and put them into the performance contractor's mailbox.

A strategic error was made in the implementation of the no-contracting condition. During the no-contracting condition, the majority of the students chose not to fill-out the contracts and those students who did only completed two or fewer contracts. Therefore, no data were collected on the percentage of tasks completed during that condition. However, the monitoring of the students' performances in their classes was continued during the no-contracting condition. Therefore, the only data dealt with in the main part of the analysis were data taken from the first and the third conditions (the contracting conditions). Six of the ten students were enrolled in the same course, and their academic performance was also addressed during the no-contracting condition.

Each condition lasted from four to six weeks, depending on the students' contracting performances. Originally, the contracting procedures were to be implemented for four weeks, but because of low
performances, the contracting condition lasted longer in some cases. The two students who participated in the avoidance procedure did not change to the no-contracting condition, but continued to contract with the avoidance procedure added. The requirements of studying in the study center were discontinued for three of the students during the last two conditions, because they were losing points for not attending, though they were completing all of the other contracted tasks.
CHAPTER III

RESULTS AND DISCUSSION

This study was an analysis of the feasibility of a black graduate student using a performance-contracting, support system to help other black graduate students complete the academic tasks necessary for success in their courses.

The Contracting Session

The mean percentage of tasks completed was 68.4; the mean percentage of study-center ours attended was 22.5; and the mean percentage of performance contracting meetings attended was 95.1. Four of the students failed to complete a large number of tasks (below 70 percent), yet six of the students did complete most of their assigned tasks (above 70 percent). Table 2 summarizes the students' performances for the combination of the two conditions when performance contracting was in effect.

Our of 21 course grades, there were 6 (28.6 percent) unsatisfactory grades and 15 (71.4 percent) satisfactory grades. Nine out of ten students achieved a semester grade point average of 3.0 or above. Two students received incompletes, one student dropped one course and two students received course grades of 2.5 and below. This is a reasonable success, but there is room for improvement. Table 3 displays the students' final grades in the courses. Anything less
Table 2  
Individual Contracting Performances

<table>
<thead>
<tr>
<th>Student</th>
<th>No. of Tasks Assigned</th>
<th>No. of Tasks Done</th>
<th>% of Tasks Done</th>
<th>No. of Study Center Hours Assigned</th>
<th>No. of Study Center Hours Done</th>
<th>% of Study Center Hours Done</th>
<th>No. of Meetings Scheduled</th>
<th>No. of Meetings Attended</th>
<th>% of Weekly Meetings Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>44</td>
<td>20</td>
<td>44.4</td>
<td>36</td>
<td>5</td>
<td>16.6</td>
<td>12</td>
<td>11</td>
<td>92</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
<td>12</td>
<td>100.0</td>
<td>30</td>
<td>10</td>
<td>33.3</td>
<td>8</td>
<td>4</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>40</td>
<td>17</td>
<td>42.5</td>
<td>25</td>
<td>3</td>
<td>12.0</td>
<td>18</td>
<td>9</td>
<td>50</td>
</tr>
<tr>
<td>4</td>
<td>36</td>
<td>24</td>
<td>66.7</td>
<td>35</td>
<td>25</td>
<td>71.4</td>
<td>10</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>5</td>
<td>26</td>
<td>25</td>
<td>89.3</td>
<td>30</td>
<td>27</td>
<td>90.0</td>
<td>8</td>
<td>6</td>
<td>75</td>
</tr>
<tr>
<td>6</td>
<td>20</td>
<td>19</td>
<td>95.0</td>
<td>35</td>
<td>25</td>
<td>71.4</td>
<td>7</td>
<td>7</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>42</td>
<td>35</td>
<td>83.3</td>
<td>70</td>
<td>70</td>
<td>100.0</td>
<td>8</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>35</td>
<td>26</td>
<td>74.3</td>
<td>35</td>
<td>10</td>
<td>28.5</td>
<td>12</td>
<td>12</td>
<td>100</td>
</tr>
<tr>
<td>9</td>
<td>44</td>
<td>32</td>
<td>72.7</td>
<td>50</td>
<td>27</td>
<td>54.0</td>
<td>10</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>10</td>
<td>25</td>
<td>13</td>
<td>52.0</td>
<td>35</td>
<td>23</td>
<td>65.7</td>
<td>7</td>
<td>7</td>
<td>100</td>
</tr>
</tbody>
</table>

Up Limit: 44, 35, 100.0, 70, 27, 71.4, 12, 12, 100.0, 94
Low Limit: 12, 12, 44.4, 25, 3, 12, 6, 4, 50.0, 43
Mean: 32.6, 22.3, 68.4, 37.5, 22.5, 60, 8.8, 82, 95.1, 73.4
Table 3
Students' Final Course Grades

<table>
<thead>
<tr>
<th>Student</th>
<th>Course 1</th>
<th>Course 2</th>
<th>Course 3</th>
<th>Course 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dropped</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3.5</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4.0</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4.0</td>
<td>Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2.5</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>2.0</td>
<td>3.5</td>
<td>3.0</td>
<td>3.5</td>
</tr>
<tr>
<td>8</td>
<td>3.5</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>3.0</td>
<td>Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>3.0</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Grading Scale: 4.0=A, 3.5=B/A, 3.0=B, 2.5=C/B, 2.0=C, Inc.=Incomplete, Drop=Dropped Course

than 3.0, a dropped course, or an incomplete was considered an unsatisfactory grade.

Looking at Table 2 and Table 3, the four students who had the highest task completion rate (70 percent and up) received course grades of 3.0 and above. Also, one student had a high task completion rate (89 percent) but course grades of 2.5 and below. Two students who had a very low task completion rate (52 percent and below) and received course grades of 3.0 and above. Whereas, there were three students who had low task completion rate (72 percent and below) and
either dropped or received an incomplete in one of the two courses. In summary, the percentage of task completion appeared to be related to course grades for 70 percent of the students (the four who had high task completion and high grades and the three who had low task completion and dropped or received incompletes).

There is a statistically significant positive correlation $r = 0.657$, $p < 0.05$ between the number of tasks assigned and the number of tasks completed. At first glance it might seem obvious that the more tasks assigned, the more tasks that will be completed, but that need not be the case. It might be that many of the students would have completed a fixed number of tasks independent of the number of tasks assigned. Figure 1 shows the correlation between the total number of tasks assigned to each of the students and the total number of tasks each of the students actually completed.

The Study Center

The home contains many distractions that may contribute to poor time management and incompletely completed tasks. Therefore, attendance at the study center was implemented as a requirement in efforts to reduce the number of distractions and thereby increase the likelihood of completed assignments. Unfortunately, attendance at the study center was low throughout the semester. Many of the students reported that attending the study center was inconvenient; instead they preferred to do most of their coursework at home (many of the students had computers at home).
Figure 1. The Correlation Between the Number of Tasks Assigned and the Number of Tasks Completed.
Issues similar to study center attendance were also addressed in the research of Himelstein & Himelstein (1977). They attempted to motivate the students on academic probation by using contracts in which students specified the amount of time they would study. Their findings were: The closer the students came to meeting the terms of the contract, the greater the positive change in GPA. In the present performance-contracting system, three of the students with low study center attendance (see Table 2) also had a low task-completion rate, and those students with high study center attendance had a high task-completion rate. This is in keeping with past studies in which researchers assumed that students with low academic performance usually and had not acquired the appropriate time-management skills (Dean, Malott, & Fulton, 1983; Jager, 1984; Yancey, 1983).

There was some success in getting study center participation in the performance contracting system, but like Ottens (1982) who also had some success with the number of hours students studied using his guaranteed scheduling technique, there was still room for improvement. Future research should be conducted on examining the effects of study center attendance on task-completion rate, perhaps using stronger incentives. In spite of the low success in getting students to attend the study center, the general rule may still be that the number of hours a student studies is usually reflected in his or her academic success. Therefore, efforts should be continued in this area because many students may benefit from a well structured study center program.
The experimenter tried to analyze whether or not performance contracting had an effect on the students' performances in their courses. Six of the ten students who participated in the performance contracting system were enrolled in the same psychology course. The course covered research methodology and strategies, emphasizing the areas of measurement, reliability, and single organism research design. Before each class period, students were given a two point quiz, a total of 22 quizzes. Also, students were given a total of four unit tests and four written assignments throughout the course. The academic performances of the six students were compared to the remaining 24 students' academic performances who were not in the performance contracting system but were also enrolled in the course. The experimental group consisted of 6 black graduate students, whereas the control group consisted of 22 white and 2 black graduate students.

Table 4 displays the group performances on the tests, quizzes and papers for the three phases. There might have been some effect on quiz performances. When looking at the performances on the quizzes, there was a decrement and increment from phase B to phase A and back to phase B in both groups. However, the decrement was greater in phase A for the experimental group. Students' quiz performances decreased by 30 percent in the experimental group, whereas, in the control group, the decrease was only 14 percent. In the last contracting phase, both groups' quiz performances in-
creased, but the students' grades in the experimental group performances were still much lower than the students' grades in the control group. Students' test performances in the control group increased across the phases whereas, students' test performances in the experimental group decreased across the phases. The students' written assignments in the control group increased from the first to the second phase but decreased slightly in the last phase. However, the students' written assignments in the experimental group decreased across the three phases.

Therefore, one might conclude that removing performance contracting from the experimental group had some effect. However, no attempt was made to compare the control group and the experimental group directly, because the experimental group did not consist of a random sample from the total population of the class, nor were the groups matched on other variables such as GRE scores, grade point averages, etc.

| Table 4 |
| Group Performance During Phase Changes |
| Group Assignments | Control B | A | B | Experimental B | A | E |
| Quiz | 81.2 | 67.2 | 73.9 | 71.5 | 39.6 | 58.3 |
| Test | 84.8 | 88.3 | 91.8 | 88.2 | 82.8 | 80.8 |
| Papers | 85.5 | 89.3 | 88.7 | 89.8 | 85.5 | 79.5 |
Table 5 displays both of the groups' mean percentages on the final course grades, four tests, four papers and the average of 22 quiz scores. The control group performed higher on all of the tests, papers, and combined quizzes than the experimental group. The experimental group received an average final grade of 82.6, which was a B, and the control group received an average final grade of 89.9, which was a B/A, a difference of 7.3 percent. On the one hand, this suggests the need for a program such as the one being developed here. Since the students all and overall GPA's of 3.0 or above prior to

Table 5
Group Performances in Course (in percentage)

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Grade</td>
<td>89.9</td>
<td>82.6</td>
</tr>
<tr>
<td>Quiz</td>
<td>77.5</td>
<td>63.3</td>
</tr>
<tr>
<td>Test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>88.8</td>
<td>81.5</td>
</tr>
<tr>
<td>2</td>
<td>87.5</td>
<td>86.8</td>
</tr>
<tr>
<td>3</td>
<td>88.3</td>
<td>82.8</td>
</tr>
<tr>
<td>4</td>
<td>91.8</td>
<td>80.8</td>
</tr>
<tr>
<td>Paper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>90.2</td>
<td>84.3</td>
</tr>
<tr>
<td>2</td>
<td>89.3</td>
<td>87.3</td>
</tr>
<tr>
<td>3</td>
<td>89.3</td>
<td>85.5</td>
</tr>
<tr>
<td>4</td>
<td>88.7</td>
<td>63.3</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
participating in the performance contracting program it is difficult to conclude that the program helped the students.

However, on the other hand, the course was considered one of the most difficult courses in the students' curriculum. The fact that the students were able to maintain a GPA of 3.0 or above might give reason to believe that the procedures were effective. However, because the control group was not matched to the experimental group, we can not determine with any certainty, the effects of this program on the students' performances in their courses.

Social Validation Form

Questionnaires were given to the students to measure the validity of the performance contracting procedures from the point of view of the participants. The students were asked by the experimenter to complete the questionnaire and put it in the experimenter's mailbox, unsigned. All of the students returned the questionnaire even though there were no contingencies for non-completion. Overall, students responded that the contracting procedures did help prepare them for their tests and quizzes. They all responded that the tasks were clearly specified on the contracts. Therefore, they understood at all times which tasks needed to be completed. They responded that there may have been a relationship between the percentage of contracted tasks they completed and the grades they received in their courses. Students indicated that they were aware of their weekly contracting percentage. However, they responded negatively toward the study.
Table 6
Social Validation Questionnaire

<table>
<thead>
<tr>
<th>Question</th>
<th>Ranking</th>
<th>Mean Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>In general, did the contracting sessions help prepare you for your test and quizzes?</td>
<td>Very</td>
<td>Not at</td>
</tr>
<tr>
<td></td>
<td>Much</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>(4)(4)(3)</td>
<td></td>
</tr>
<tr>
<td>Were tasks specified so that you and your contractor knew what was expected of you by the next meeting?</td>
<td>Always</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>(10)</td>
<td></td>
</tr>
<tr>
<td>Was there a relationship between the number of tasks completed for your contract and your course grades?</td>
<td>Relation</td>
<td>No relation</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>(1)(3)(3)(3)</td>
<td></td>
</tr>
<tr>
<td>Did your contractor adequately inform you of your weekly percentage in this program?</td>
<td>Very</td>
<td>Not at</td>
</tr>
<tr>
<td></td>
<td>Much</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>(8)(2)</td>
<td></td>
</tr>
</tbody>
</table>
Table 6—Continued

<table>
<thead>
<tr>
<th>Question</th>
<th>Ranking</th>
<th>Mean Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did study center help prepare you for your other courses?</td>
<td>Very Not at Much All</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5 (1)(1)(5)(1)(2)</td>
<td></td>
</tr>
<tr>
<td>Were you required to spend too much time in the study center?</td>
<td>Too Not Much Enough</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5 (3)(2)(5)</td>
<td></td>
</tr>
<tr>
<td>Did you complete your course work while in the study center?</td>
<td>All None</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5 (1)(3)(2)(1)(3)</td>
<td></td>
</tr>
</tbody>
</table>

*In parentheses underneath the scale contain the individual rankings.

Students stated that studying in the study center did not help them to prepare for their courses, nor did they complete the majority of their course work in the study center (See Table 6).

Cost Benefit Analysis of Performance Contracting

The main focus of this research was to evaluate the feasibility of implementing a performance contracting system for black graduate
students. In doing so, it was necessary to evaluate the cost to the manager of the system and to the students, and to determine what was gained from implementing this procedure.

Cost to the Manager of the System

The cost of the manager in terms of time would vary depending on the number of students involved in the performance contracting system. In this study, there were 10 students, and it took about 10 hours per week, (one hour per student) for the contracting sessions. In addition, it took two hours per week to conduct reliability checks (tasks completed by the specified date and time) for all of the students. Also, the performance contractor spent one hour per week recording and posting the students' weekly performance-contracting percentages. It took an additional 15 hours (five hours a month for three months of the semester) for the performance contractor to fill-out, send and collect monthly feedback forms for each student's professors. The total cost in time to manage a performance contracting system per semester for 10 students would be at least 13 hours a week for 15 weeks plus the additional 15 hours which would equal 210 hours. If the person implementing this system was receiving payment of minimum wage ($3.65 per hour), then it would cost $766.50 per semester. Other minimal costs would include the paper needed for the contracts, study center verification forms, monthly feedback forms, and xeroxing.

Benefit to the Researcher

The individual implementing the performance contracting system might not only receive a salary but also gain valuable knowledge and
skills that could be utilized in the future; for example, communication, supervisory, counseling, data processing, system management, self-management, and time-management skills.

Cost to the Student

The cost to the individual student in time would be at least one hour per week for the contracting meetings. Also, it would cost the student an additional twenty minutes per week for reliability checks to determine whether the contracted assignments were completed by the specified date and time. To participate in the performance contracting system, it would require one hour and twenty minutes per week, for at least fifteen weeks per semester; a total of twenty hours per semester.

Benefits to the Student

All graduate students can probably benefit from participating in a performance contracting system. A performance contracting system may help students decrease the delay in starting major projects or papers. In the long-run, students might benefit not only by increasing or maintaining high grade point averages but also by completing their programs more rapidly.

Benefit to Society

With more black students completing graduate programs, blacks may be better able to contribute to the community at large and to the
black community in particular. If graduating more blacks from graduate programs could be accomplished, then the benefits outweigh the costs. Black graduates would probably be more qualified than white graduates to go into the black communities. They could apply their knowledge and skills in the black communities and serve as role models.

Recommendations

For future research, a possible study could be implemented to better determine whether or not performance contracting has an effect on students' performances in their courses. In order to more directly determine the effects of performance contracting on task completion, a future study should use the same BAB design and performance contracting procedures but continue to measure students' task completion during the no contracting condition maybe using a checklist for task completion. Future research could be directed toward those black graduate students who have grade point averages below 3.0. Future research could compare students' academic performance over a year with matched pairs of students.

Improvements might be made by focusing on more desirable and immediate rewards as incentives. Himelstein & Himelstein pointed out the importance of using reinforcers and punishers in future research, but the appropriate reinforcers and punishers may vary considerably from individual to individual.

Another study could evaluate the effects of the avoidance procedures versus the effects of no-avoidance procedures on task
completion. The two students who participated in the avoidance procedures in this research had high rate of task completion once the procedure was implemented (See Appendix A).

Finally, reliability measures should be implemented for the independent and dependent variables in the performance contracting program. These measures should include reliability measures of the performance contractors' procedures. Reliability measures can reduce subjective errors made by the experimenter.

An Assessment of the Evaluation

This report constitutes an evaluation of the feasibility of a study support program run by a black graduate student to help other black graduate students. The present section is an assessment of the extent to which the evaluation itself met the criteria for program evaluation according to the standards of The Joint Committee on Standards for Educational Evaluation (1981) and also additional criteria established by the evaluator. The committee recommended the evaluation of programs according to four criteria: (a) utility, (b) feasibility, (c) propriety, and (d) accuracy. The most relevant criteria of concern dealt with feasibility. However, all four of the criteria were addressed. This program met twenty-nine of the thirty feasibility criteria established by this committee. This evaluation is summarized in Table 7 (The publisher gives permission to copy this form).

To best interpret the information provided on the form, the reader needs to refer to the full text describing those standards as
they appear in the *Standards For Evaluations of Educational Programs, Projects and Materials* (The Joint Committee on Standards for Educational Evaluation, 1981). The performance contracting system was also considered feasible because it met these additional criteria: A first-year master student could implement and maintain the performance contracting system. The graduate students who participated in the system accepted and complied with the administrative procedures. The students completed an average of 68 percent of their weekly assigned tasks. Also, on the average the master's students received acceptable course grades of 3.0 and above, and the Ph.D. students received course grades of 3.5 and above. All 10 students remained in the program for the entire semester. The various faculty accepted the system by not criticizing it and by actively participating (returning monthly feedback forms and making students' grades and performances available). And finally, the system was cost-effective enough in that the participation of the department, faculty, and students was not financially burdensome.

Table 7
A Program Evaluation

A1-Audience identification - Yes, this report will be available to the following: black graduate students, faculty advisors, and black educators.

A2-Evaluator creditability - Yes, this report was conducted, written, and evaluated by a master's student under the supervision of her
Table 7—Continued

academic advisor (faculty member of an accredited university).

Many of the students who participated in the program were also the
advisees of the same academic advisor. The researcher and the
evaluator was the same person; however, bias was minimized because
of the accountability of the evaluator to the sponsors on the
master's thesis committee. Yet there were varying degrees of prior
commitment to the success of the program by the committee, so there
was some room for bias in favor of a positive evaluation.

A3-Information scope an selection - Yes, many questions regarding
feasibility were dealt with; however, questions concerning impact
and value remain to be addressed in future studies.

A4-Evaluational interpretation - Yes, the interpretations of the
findings were carefully described and straightforward; however, one
could dispute that the evaluation was reported more objectively
than subjectively.

A5-Report clarity - Yes, in the report the following were clearly
described: its context, purpose, procedures, findings and
recommendations.

A6-Report dissemination - Yes, the findings will be given to the
participants and also will be submitted for publication.

A7-Report timeliness - Yes, the report was timely in that addressed a
perennial problem.

A8-Evaluation impact - Yes, recommendations were made in hopes of
encouraging others to implement a modified version of this system
Table 7—Continued

in the original setting (Western Michigan university( after publication.

B1-Practical procedures - Yes, the evaluation procedures were practical with no disruptions.

B2-Political viability - Yes, this was a politically viable evaluation, in that all of the students and faculty involved willingly agreed to participate, and no hostilities were expressed. One could debate that the evaluation was addressed more from the experimenters point-of-view and little from the students and faculty.

B3-Cost effectiveness - Yes, the evaluation and the development and implementation of the program was part of a regular master's thesis and entailed the amount of time and effort typical of a masters thesis.

C1-Formal obligation - Yes, written agreements were used and participants were informed of their rights and what would be expected of them.

C2-Conflict of interest - Yes, there were potential conflicts of interest in that the evaluator was the same person as the developer and implementor of the program. However, those conflicts of interest were minimized because of the accountability of the evaluator to the sponsors on the masters thesis committee.

C3-Full and frank disclosure - Yes, all pertinent findings and limitations were addressed.
Table 7—Continued

C4—Public's right to know - Yes, the public's right-to-know will be met when the report is published.

C5—Rights of human subjects - Yes, the rights of the subjects were respected and protected. The program and its evaluation were accepted by the Western Michigan University human subject review committee and evaluated by the orals committee.

C6—Human interactions - Yes, good communications were maintained and all were respected who were associated with the report. Any questions or grievances were discussed and handled.

C7—Balanced reporting - Yes, the report was fair in presenting its strengths and weaknesses.

C8—Fiscal responsibility - Not applicable.

D1—Object identification - Yes, the identity of the program evaluated was straightforward, in that no problems occurred.

D2—Context analysis - Yes, the context was examined in enough detail in the method section and throughout the paper; however, one could probably find an issue which was not addressed in the context and, therefore, overlooked by this evaluation.

D3—Described purposes and procedures - Yes, full description of the purpose and procedures were presented in the introduction and method sections.

D4—Defensible information sources - Yes, the sources used in the report were described in detail.
Table 7—Continued

D5-Valid measurement - Yes, all of the measures taken were sufficiently straightforward an objective that there was little concern for validity. However, it might have been better in some instances if an independent reliability observer had been used.

D6-Reliable measurement - Yes, the appropriate instruments and procedures assured that the information was reliable.

D7-Systematic data control - Yes, standard recording and analysis techniques were used.

D8-Analysis of quantitative information - Yes, the data collected were appropriately and systematically analyzed.

D9-Analysis of qualitative information - Yes, the data were appropriately analyzed. Standard procedures for assessing social validity were used.

D10-Justified conclusions - Yes, the conclusions were data based; however, there were some limitations in the reporting of the evaluation procedures.

D11-Objective reporting - Yes, the report was free of bias and distortions, as ensured by the oral examination committee.

The performance contracting system would not have been feasible if the following events had occurred: First, if students had not agreed to participate in the performance contracting system or had failed to attend the performance contracting meetings. Second, if the
students had low task completion, or high task completion performance but received semester grades below 3.0. Lastly, if many of the students had dropped out of the system prior to the completion of the program or responded that the performance contracting system was more adverse and time consuming than helpful. However, none of the above problems arose in the performance contracting system.

Overall, this performance contracting system seemed feasible. Graduate students did participate by attending the contracting meetings, completing tasks, and to a lesser extent attending the study center. Therefore, a performance contracting system can be implemented in graduate programs as a type of support system. This system of performance contracting provides support to graduate students which, in the long-run, may increase the percentage of black graduate students who successfully achieve their graduate degree and thereby may help to increase the number of blacks in professional positions.
REFERENCES


Appendix A

Individual Contracting Performance
Individual Contracting Performances

The students' individual performances in the performance contracting system were also observed during the contracting phases. Table 8 displays the three categories in which students could earn points over two to seven weeks. In both of the contracting phases, students received points for completing their contracts, attending weekly contracting meetings and attending the study center. Table 8 consisted of the total number of points which were earned, divided by the total possible points which could have been earned. The students' overall task completion, and attendance to the contracting meetings were higher in the first phase than in the last phase. The decrease in task completion which occurred in the last contracting phase could be attributed to the end of the semester, when students had other competing activities, such as the completion of theses and dissertations. Also, there was a 6 percent decrease in the attendance to the weekly contracting meetings in the third phase; but overall, the students' attendance to the weekly meetings remained high, even though they may have failed to complete some of their contracted tasks.
Table 8
Students' Compliance With Performance Contracting Procedures

<table>
<thead>
<tr>
<th>Phase One</th>
<th>Phase Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Contract Study Meetings</td>
<td>Contract Study Meetings</td>
</tr>
<tr>
<td>Center</td>
<td>Center</td>
</tr>
<tr>
<td>1</td>
<td>50/210</td>
</tr>
<tr>
<td>23.8%</td>
<td>16.7%</td>
</tr>
<tr>
<td>2</td>
<td>210/210</td>
</tr>
<tr>
<td>100.0%</td>
<td>33.3%</td>
</tr>
<tr>
<td>3</td>
<td>50/175</td>
</tr>
<tr>
<td>28.6%</td>
<td>12.0%</td>
</tr>
<tr>
<td>4</td>
<td>160/245</td>
</tr>
<tr>
<td>65.3%</td>
<td>83.3%</td>
</tr>
<tr>
<td>5</td>
<td>155/175</td>
</tr>
<tr>
<td>88.6%</td>
<td>88.0%</td>
</tr>
<tr>
<td>6</td>
<td>158/175</td>
</tr>
<tr>
<td>90.3%</td>
<td>84.0%</td>
</tr>
<tr>
<td>7</td>
<td>185/210</td>
</tr>
<tr>
<td>88.1%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Table 8—Continued

<table>
<thead>
<tr>
<th></th>
<th>Phase One</th>
<th>Phase 3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Student Contract Study Meetings</td>
<td>Contract Study Meetings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Center</td>
<td>Center</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>168/245</td>
<td>10/35</td>
<td>70/70</td>
</tr>
<tr>
<td></td>
<td>68.6%</td>
<td>28.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>9</td>
<td>237/280</td>
<td>20/40</td>
<td>80/80</td>
</tr>
<tr>
<td></td>
<td>84.6%</td>
<td>50.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>10</td>
<td>165/210</td>
<td>18/30</td>
<td>60/60</td>
</tr>
<tr>
<td></td>
<td>78.6%</td>
<td>60.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>1538/2135</td>
<td>194/330</td>
<td>590/610</td>
</tr>
<tr>
<td>Percent</td>
<td>78%</td>
<td>58.8%</td>
<td>96.7%</td>
</tr>
</tbody>
</table>

*The numbers indicated the total number of points earned divided by the total number of points which were possible. The second row indicates the percentage earned.

Students' study center attendance was only 59% in the first contracting phase, but increased to 69% by the last contracting phase. A factor which contributed to this increase was that only six for the ten students were required to complete the study center hours during the last phase, whereas, all of the students were required to complete them during the first contracting phase. The four who were not required to attend the study center were the students who had lowest study center attendance during the first contracting phase. Also, attendance to the center during the first contracting phase was over
at least a period of six weeks; however, the last contracting phase consisted of an average of two weeks.

The performance of students 1 and 3 in their courses was either at 80% or above. However, both students had very low task completion rates. Reasons for such low task completion rate varied, but the most consistent factor found that both students procrastinated until the last moment possible to complete tasks for their courses. Also, they and low study center attendance. Therefore, both volunteered to participate in the avoidance procedure (refer to the procedure section), with the point contingencies removed for attending study center. Because the study center was removed at the same time as the avoidance procedure was implemented this confounded the avoidance procedure. One can not empirically demonstrate which was the crucial variable; however, it would seem reasonable to expect that removing the study center requirements would not increase the students task completion rate.

An increase in task completion did occur when the avoidance procedures were implemented. Student 1 went from a 23.8% task completion rate to a 64.3%, a 31% increase, whereas, student 3 went from a 28.6% task completion rate to a 45.7%, a 17% increase (see Table 8). Student 1 dropped one class but received a 3.0 in the other class, whereas, student 3 received 4.0 in both classes (see Table 3). Both of the students reported that the avoidance procedures helped them to complete their course work on time and the procedures were of value to them.
Appendix B

Forms Used in the Performance Contracting System
Performance Contract Form

Date: ____________________________

Center for the Self-management of Academic Performance

Student Contract

Name _______________________

Contractor ________________

Date ________________

Specify a task for each class in which you are enrolled.

<table>
<thead>
<tr>
<th>Dept.&amp; No.</th>
<th>Task and Criterion</th>
<th>Proof of Accomplishment</th>
<th>Date Points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Attendance Yes __________ No __________ # of points ______

Total Points ______________ for accomplishments
Dear Colleague:

With the permission of the students, we are setting up a monthly management information system, to keep track of their academic performance. Their participation is voluntary. Would you please provide the following information for ________________

(Student name)

relevant to your course ______________________ and (course)

put this back in my mailbox.

Thanks for your help.
Professor

<table>
<thead>
<tr>
<th>Grades on Written Papers</th>
<th>Homework Assignments</th>
<th>Quiz Scores</th>
<th>Attendance</th>
<th>Present Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Study Center Verification Form

Center for the Self-Management of Academic Performance

Points Earned

Study Center Attendance Verification Form

Date

Student Name

Contractor's Name

Time In

Time Out

Comments

List the class you will produce work for while in the study center.

In the space below, write the accomplishments you plan to produce in study center.

Task

Proof Accomplishment

Signature


Western Michigan University, Center for Institutional Research. (1985). *Super spread*, Kalamazoo, MI.