A Peer-Managed Contract Study Program for High School Students

Stinson

Follow this and additional works at: https://scholarworks.wmich.edu/masters_theses

Part of the Educational Psychology Commons

Recommended Citation
https://scholarworks.wmich.edu/masters_theses/1797
A PEER-MANAGED CONTRACT STUDY PROGRAM
FOR HIGH SCHOOL STUDENTS

by

Jane F. Stinson

A Project Report
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Specialist in Education
Department of Psychology

Western Michigan University
Kalamazoo, Michigan
April 1981
A contract study center was implemented in a high school setting. The center employed peer-tutoring and behavioral contracting procedures. The program was designed to assist students with assigned tasks and to increase the efficiency with which in-school study periods were used. Students either were referred by teachers or volunteered to use the center. The project was implemented for ten weeks on a pilot basis. The results indicated that students used the center extensively and adequately adhered to behavior management requirements. A large proportion of contracts were completed demonstrating that the center procedures were effective in facilitating productivity. Staff evaluations showed that peer staff were effective in writing contracts, evaluating work done and managing the behavior of student participants. It was recommended that additional research be done to evaluate student performance in terms of classroom grades, determine the effectiveness of individual program components and ascertain whether self-management skills are acquired as a result of center use.
ACKNOWLEDGEMENTS

There are many people to whom I owe a great deal for their support and assistance in the completion of this project. First, I wish to thank the administrators, teachers and students of Schoolcraft High School. Their acceptance, cooperation and participation were exceptional and enabled me to successfully carry out this project.

The students who served as staff members deserve much of the credit for the positive outcome of the project. They were outstanding in every way.

My friends and colleagues in the Schoolcraft Project Research Seminar provided kind and necessarily critical reviews of my work.

To Drs. Alessi and Poche I extend my thanks for serving on my Specialist Committee and for contributions to my educational experience.

Finally, to my good friends and mentors Howard E. Farris and William (Bill) Redmon I owe a great debt of gratitude, for without their constant prompts, threats, cajoling, guidance and reinforcement this project might never have been completed. And so it goes • • •

Jane F. Stinson
INFORMATION TO USERS

This was produced from a copy of a document sent to us for microfilming. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help you understand 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 you of complete continuity.

2. When an image on the film is obliterated with a round black mark it is an indication that the film inspector noticed either blurred copy because of movement during exposure, or duplicate copy. Unless we meant to delete copyrighted materials that should not have been filmed, you will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., is part of the material being photographed the photographer has followed a definite method in “sectioning” the material. 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 any illustrations that cannot be reproduced satisfactorily by xerography, photographic prints can be purchased at additional cost and tipped into your xerographic copy. Requests can be made to our Dissertations Customer Services Department.

5. Some pages in any document may have indistinct print. In all cases we have filmed the best available copy.
STINSON, JANE FRANCES
A PEER-MANAGED CONTRACT STUDY PROGRAM FOR HIGH SCHOOL STUDENTS.
WESTERN MICHIGAN UNIVERSITY, ED.S., 1981
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>v</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>I.  INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>II. METHOD</td>
<td>11</td>
</tr>
<tr>
<td>Subjects, Setting and Materials</td>
<td>11</td>
</tr>
<tr>
<td>Procedure</td>
<td>12</td>
</tr>
<tr>
<td>Preparation for the Project</td>
<td>12</td>
</tr>
<tr>
<td>Student Staff Selection</td>
<td>15</td>
</tr>
<tr>
<td>Staff Training</td>
<td>16</td>
</tr>
<tr>
<td>Study Area Procedures</td>
<td>18</td>
</tr>
<tr>
<td>Staff Activities</td>
<td>19</td>
</tr>
<tr>
<td>Data Collection</td>
<td>22</td>
</tr>
<tr>
<td>III. RESULTS</td>
<td>25</td>
</tr>
<tr>
<td>IV. DISCUSSION</td>
<td>40</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>54</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>62</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Item Analysis of Percent Times Each Management Objective Was Met on Student Evaluation Forms</td>
<td>32</td>
</tr>
<tr>
<td>Table 2</td>
<td>Analysis of Percent Times Each Error in Writing and Checking Out Contracts Occurred</td>
<td>39</td>
</tr>
<tr>
<td>Figure</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Figure 1</td>
<td>Number of students participating in the Guided Study Project (GSP) each week with number of days GSP open each week in parentheses</td>
<td>26</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Percent of total (N=90) attending Guided Study one time and more than one time compared with contract completion for each group</td>
<td>28</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Percent contracts met and not met by students according to criterion for completion</td>
<td>30</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Percent contracts correctly written by student staff compared with staff performance in correctly checking out contracts for completion</td>
<td>36</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Over the last decade, applied behavior analysis has focused a major portion of its technology on the analysis of those variables which operate in educational settings. In 1968, Baer, Wolf and Risley pointed out that applied behavior analysis had resulted in general descriptive statements of variables, which could be manipulated to alter behavior and that these statements established the possibility of their application to problem behavior, including those behaviors found in educational settings. In 1970, Bijou wrote that psychologists could offer educators a set of concepts and principles derived entirely from the experimental analysis of behavior along with a methodology for the practical application of these concepts and principles. Since that time, the trend toward systematic exploration and use of behavioral procedures in education has continued with numerous studies being conducted directly in educational settings. This has resulted in additional information and a more refined technology for the implementation of such principles.

The purpose of this review will be to point out the relevance of certain principles in the implementation of a comprehensive program in an educational setting and, more specifically, how they relate to the development of a peer-managed study program for high school students. Among these principles are contingent reinforcement and extinction
along with the concept and practice of feedback which has been used to obtain desired student responses and to maintain desired staff behavior in institutional and educational settings. Other procedures, which combine a number of behavioral principles, have also been developed and demonstrated notable success in educational settings. They are contracting, self-management and peer-tutoring.

To begin with, teachers have been taught to effectively use reinforcement principles, frequently in conjunction with systematic extinction, to reduce disruptive behaviors of students. Such studies have been done with entire classrooms, as well as selected individuals (Madsen, Becker and Thomas, 1966; Thomas, Becker and Armstrong, 1968; Hall, Fox, Willard and Goldsmith, 1971; Herman and Tramontana, 1971; Harris and Sherman, 1973). Main and Monro (1971) and McAllister, Stachowiak, Baer and Conderman (1969) demonstrated the use of reinforcement principles to reduce disruptive behaviors in secondary classrooms. Teachers have also learned to use the same principles to improve behaviors deemed conducive to classroom learning; for example, attending, on task, and academic performance have been emphasized in various studies (Hall, Panyan and Rabon, 1968; Ward and Baker, 1968; Hall, Lund and Jancson, 1968; Broden, Bruce, Mitchell, Carter and Hall, 1970; Ferritor, Buckholdt, Hamblin and Smith, 1972; Allyon and Roberts, 1974; Marholin and Steinman, 1977).

Perhaps the most important of these studies have emphasized consequation for academic task completion and quality of academic performance (usually in terms of accuracy) rather than consequation for appropriate behavior which does not project the same possibility.
that skills will be learned. In addition, Marholin's study demonstrated that contingencies for academic behavior versus on-task behavior were more conducive to generalization because students became more independent of the teacher's presence and more under the control of academic materials.

The use of feedback, frequently as part of a reinforcement procedure, has repeatedly been demonstrated as an important component of behavior change programs in the classroom. A study conducted by Drabman and Lahey (1974) used feedback, alone, to decrease the disruptive behavior of an individual student. Other research has established the effectiveness of feedback, as part of a token reinforcement procedure, to decrease the disruptive behavior of an entire class of students (Robertson, DeReus and Drabman, 1976). VanHouten, Hill and Parsons (1974) found that use of feedback as part of a "performance feedback system," including timing, public posting of highest scores and praise, was a critical variable in improving academic performance.

In addition to its use with students, feedback has also been an important variable for improving and/or maintaining staff performance. This has been demonstrated with staff in educational and institutional settings, with teachers, paraprofessionals, and students who function as peer managers and tutors. In a study with paraprofessionals in a state institution, Panyan, Boozer and Morris (1970) investigated the reinforcing properties of feedback by introducing a feedback procedure to maintain the daily use of operant training methods with retarded children. Results showed an increase in the number of training
sessions conducted with these children. In evaluating three staff-management procedures, Quilitch (1975) found that performance feedback was more effective than memos or a workshop in getting paraprofessionals to increase the number of recreational activities conducted with patients. Cooper, Thompson and Baer (1970) successfully used feedback with teachers to increase their attending behaviors for appropriate student behaviors. Barnard, Christophersen and Wolf (1974) used feedback, as part of a package, to improve the competency in performance of peer tutors in their work with other students. Results were particularly effective in the areas which measured completeness in tutoring students' answers to comprehension questions.

The practice of using students to help other students has also been experimentally investigated across grade levels and at universities in both undergraduate and graduate courses. The use of proctors with older populations, as in college or university settings, has enabled instructors to delegate a great proportion of instructional activity. Areas of instruction such as objective-based discussions, administration and grading of assignments, quizzes and exams, scheduling of reinforcing consequences and monitoring or tracking of student progress over time are examples of instruction conducted by peers. In the area of applied behavior analysis, Keller's Personalized System of Instruction (1968) is well known as a feasible, efficient, and effective procedure at the university level of instruction; one of the basic features of Keller's system is the use of proctors to carry out traditional instructional activities. Considerable research with the Personalized System of Instruction (PSI) has focused on this
feature and the consequent advantages for students (Alba and Penny-pack, 1972; Ferster, 1968; Malott and Svinicki, 1969; McMichael and Corey, 1969; Farmer, Lachter, Blaustein and Cole, 1972; Gaynor and Wolking, 1974). Such advantages include the opportunities for individual tutoring, immediate feedback, mastery of small units of material, remediation, better grades and longer retention of the material learned.

Students at elementary through high school grades have also been taught to provide individualized instruction for their peers (Surratt, Ulrich and Hawkins, 1969; Gladstone and Sherman, 1974). As in the case with the use of proctors, peer-tutors can also maximize teachers' instructional time with students. Several studies have focused on the improved academic performance of students tutored in academic areas such as reading, spelling and math (Harris, W., Sherman, Henderson and Harris, M., 1972; Willis, Crowder and Morris, 1972; Harris and Sherman, 1973; Johnson and Bailey, 1974). Harris and Sherman (1973) noted the advantages of additional persons in a setting who could answer questions, give instructions, and provide feedback.

In addition to the benefits to the tutee, Davis (1972) and Dineen, Clark and Risley (1977) examined changes in the tutors' academic behavior as a function of engaging in instructional behaviors. Results of these studies showed that the tutors' academic performance improved in the areas they were tutoring; moreover, the studies demonstrated the feasibility with which contingencies could be placed on the tutors to further improve their academic performance. For example, the opportunity for tutors to engage in a special privilege was made
contingent upon the academic performance of tutees as assessed by a posttest (Dineen, Clark and Risley, 1977). Teams of tutors competed for a trophy based upon their performance on an Efficiency Check List which rated each tutor on several instructional and procedural behaviors (Willis, Crowder and Morris, 1972). Davis (1972) awarded tutor points, also contingent on specified behaviors. In addition, tutors had to complete assigned academic work prior to participating in each tutoring session.

Contingency contracting, like PSI and peer tutoring, can incorporate several principles of learning and contingency management including reinforcement and feedback. In addition, contracting provides an expedient way to apply many of the Principles of Effective Usage in instruction as discussed by Michael (1967). Those which are particularly critical to the contracting procedure are relevant criteria, consistency, immediacy, frequency, and small steps, along with the principle of effective contracting, which speaks to clarity, fairness and honesty.

One of the first papers to discuss the implementation of a contracting procedure in an educational setting concluded that contingency contracting appeared to be a potentially useful tool for professionals working with problem behaviors of children (Cantrell, R. P., Cantrell, M., Huddleston and Woolridge, 1969). Since then, Bristol and Sloane (1974) have reported the use of contingency contracting to increase study rate and test performance with undergraduate psychology students. Schwartz (1977) reported significant results in reading scores of seventh grade students as a result of
an individualized tutorial program and a contracting procedure designed for the purpose of contingency management. Lastly, research conducted by White-Blackburn, Semb, S. and Semb, G. (1977) involved the implementation of a contracting program with sixth grade students; results showed an increase in on-task behavior and assignment completion along with higher weekly grades and a reduction in disruptive behavior.

Much of the material written on contracting has spoken to the opportunities for establishing self-control or self-management in clients. In educational settings, contracting provides the student the opportunity to arrange certain aspects of his own environment which then promotes the development of self-management skills. Homme (1970) spoke of self-management as being an ultimate goal of contingency contracting and described the process as one whereby negotiation of the contract moved from teacher-controlled to mutual control by the teacher and student to self-control by the student. This progression, whereby contingencies are initially overtly specified and teacher-controlled, enables the student to develop a high rate of desired performance prior to assuming responsibility for self-controlled contingencies. It also presents the opportunity for students to learn skills for specification of those behaviors which will be assessed - a necessary prerequisite for evaluation of whether or not criterion was met.

Further, it appears that when students have the opportunity to control some or all of the contingencies for learning, their performance improves. Broden, Hall and Mitts (1971) demonstrated that it was possible to use self-recording procedures to increase appropriate or
decrease inappropriate behavior of pupils in secondary level settings. Self-regulation procedures were compared with external regulation procedures to reduce disruptive behaviors in an elementary classroom in a study done by Bolstad and Johnson (1972). Self-regulation procedures proved to be slightly more effective and the reduction in disruptive behaviors persisted throughout extinction procedures. Glynn, Thomas and Shee (1973) demonstrated the effectiveness of self-control techniques to maintain a high rate of on-task behavior, subsequent to the use of external reinforcement procedures, to increase the same response class. Glynn and Thomas (1974) demonstrated that self-control procedures could be effectively introduced into a classroom where students had no prior experience with a systematic external reinforcement procedure given that a cueing procedure for self-recording was also implemented. Pupil arranged contingency requirements proved to be more effective than teacher specified contingencies in increasing academic response rate in a study conducted by Lovitt and Curtiss (1969).

It seems reasonable, given the research on peer tutoring, contracting, and self-management, that components of these three procedures could be combined into a comprehensive program which would provide students additional options for completing assigned tasks. Initially, peer tutors could work with students in the specification of contingencies, assist with monitoring and provide the consequences for contract completion. Ultimately, students could specify their own tasks, self-determine the contingencies and monitor their own behavior. Such a program would give teachers additional time for other instructional activities in the classroom. However, it is not
typically the case — whereby teachers have the resources or time to provide peer-tutor training or to arrange for the necessary antecedents and consequences to implement such a program.

The traditional concept of a study hall, typically found in secondary schools, is that of a class period whereby a wide range of students have the opportunity to complete tasks assigned in their classes. Minimally, the structure usually consists of a model school staff who function as a supervisor to ensure that students' whereabouts are accounted for and that some measure of appropriate behavior is maintained. There are no external consequences for behavior conducive to task completion or academic performance. Those students who do make optimum use of the study hall setting typically have a history of self-control.

Given the technology of applied behavior analysis and the present situation of study hall periods in a high school setting, the project involved the use of high school as peer managers and peer tutors who completed contracts with the Guidance Study Center. Contracts for academic and contingencies or appropriate study behaviors were specified in order to establish necessary stimulus control and as a means of teaching students ways in which they might better manage their own study behaviors.
In order to determine the effectiveness of the project, the following variables were examined:

1. The extent to which students would voluntarily choose to make use of a structured study program either during their study hall period or during a portion of a scheduled class.

2. The extent of academic production of students making use of the program for classroom preparation.

3. The extent to which high school students could learn to conduct and manage a study program for their peers.
CHAPTER II

METHOD

Subjects, Setting and Materials

The subjects for this study were high school students, 9th through 12th graders, who voluntarily participated in the Guided Study Project (GSP) on a daily basis. The high school, located in a small, rural community, had an enrollment of approximately 300 students at the beginning of the second semester in 1977. The study was conducted from the third week in March of that semester until the final exam week of that school year. It was terminated prior to exam week because construction had begun in the facility where the study was being conducted. For the initial eight and one-half weeks, the study was in effect for the first one-half hour before school, and the first and second class periods. It was in effect for all class periods during the last days of the study's duration.

There were 17 teachers employed at the high school, 12 of whom taught 38 various academic courses. Student-teacher ratio for each class ranged from 1:14 to 1:30. Each day consisted of seven class periods of 52 minutes each.

A portion of the school library was designated as the GSP area which had tables where four to six students could comfortably study and four study carrels. Partitions, approximately three meters tall, were set up halfway across the library, each day, in order to...
separate the Guided Study area from other library activities. This area had its own entrance-exit door to the hallway which lent additional structure to the setting. Although there were book shelves in this area, there was minimal interruption from other students using the library. A small office off the library was used for storage of materials used in the GSP.

Few materials were needed for the study. Essential to the study were the space, tables, and chairs. Materials consisted of student passes used in the school, posters, felt pens, ditto masters and a stamp with "Guided Study Project" on it. It was necessary to keep in supply all forms needed for the project such as contracts and evaluation forms. Attempts were made to provide student staff with teachers' copies of textbooks and answer keys for assignments. These, however, did not turn out to be easily accessible.

Procedure

Prior to the implementation of the project, students either spent their assigned study hall period in the library; the cafeteria, which was used as a study hall; as cadet teachers, office or library assistants; or doing "independent study." These assignments remained in effect during the operation of the GSP with students having the option to come to the Guided Study area during their study halls and/or a portion of a scheduled class.

Preparation for the Project

Although the GSP was favorably endorsed by the school board, principal, counselor and teaching staff, several steps were undertaken
to increase the probability of the project's success prior to its implementation. There were meetings with the principal to determine purpose and structure. Given a short description of the project, the principal presented its concept to the school board and the author made the same presentation to the high school staff at a weekly staff meeting.

Essentially, the GSP was described as a place where students could choose to go to complete tasks which would typically consist of classroom assignments. Teachers might also encourage students to use Guided Study (GS) or present its use as an option to a student. Students could use GS in a number of different ways. If given permission to leave class to go to GS, students might prepare work for that class or choose to prepare work for another class. They might go there with other students to study for a test or complete make-up work as a result of absences. They might use GS to obtain additional help on assigned work and, in fact, to remediate work previously completed unsatisfactorily. They might choose GS as an alternative to their study hall or, given teacher consent, as an alternative way to meet requirements for a certain class. The project was intended to meet the needs of students who did not need instructional assistance, but simply needed additional time and a place to study, as well as, those students who could benefit from instruction or tutoring.

These uses were presented as advantages of the project to both students and teachers. Rationale to students for the extensive structure was presented as a means of ensuring a quiet place for
those who wanted to study. In addition, it was suggested to students that the use of contracts gave them the opportunity to help determine task length and performance standards and, also, gave teachers the opportunity to receive feedback on their performance.

The author visited all homeroom classes to give a general introduction to the project; state its purpose, along with advantages of its use for students and teachers; discuss the role of student staff; how and when Guided Study (GS) could be used; and the contracting procedure which was to be incorporated into the project. Attempts were made to generate discussions whereby students were asked for their reactions and suggestions. Short questionnaires (see Appendix A) were distributed and collected during each classroom visit. In general, the questionnaire was used to further orient students toward the project, to give them an opportunity for input and foster the concept that it was their project. Posters were displayed listing the student staff who would be working each class period and the hours students could most likely receive assistance in certain subjects such as chemistry and French.

Participation in the weekly teacher staff meetings, and individually, with the principal was undertaken on an intermittent basis to keep channels of communication open; update the staff on the modification of and/or implementation of new procedures in the project; assess the feasibility of student staff working during a portion of their regular class periods; and to obtain input of teachers regarding opening GS for the entire day. Time was also spent in the teacher's lounge because of the opportunity to interact with staff about the
GSP on an informal basis. One teacher in particular, who demonstrated a major interest in the project, functioned as a consultant with whom ideas and procedures for the project could be analyzed and discussed.

Throughout the duration of the GSP, communication was also maintained with students and teacher staff through announcements on the Public Address system and written notices to teachers which either sought their input or provided information. Visits were scheduled to homerooms by student staff to update students on progress of the project, as well as to provide them with a review of the same information as that given during initial visits.

Student Staff Selection

Students who expressed an interest in working as student staff for the project were given applications (see Appendix B) to complete during the initial homeroom visits. Individual interviews were held with these people and with those who were invited to interview on the basis of their names having appeared several times on the Student Questionnaires and recommendations from teachers. Criteria for student staff selection were their interest in working with the project, availability, expertise in one or more subject areas, ability to work with their peers as tutors and ability to assume responsibility for the efficient and competent management of the students participating in the project. These criteria were evaluated on the basis of teacher and peer recommendation, students' past experience in roles of working with peers, assuming responsibility in school projects, and verbal report of the students during the interviews.
Initially, 20 students were selected to work as student staff thus providing two to four staff persons per class period. Some worked for only one class period each week while others worked as many as five class periods per week. Many were given permission by their regular classroom teachers to participate as student staff during their regular classes. The principal agreed that students could earn 1/4 credit for their work with GS. At the end of the semester the author provided the counselor with a list of students who had earned credit, based on their attendance and performance as staff members. The counselor suggested that it would be expedient to have students sign up for GS when scheduling classes for the next school year.

**Staff Training**

Two forty-minute sessions were held with the staff to discuss and demonstrate the contracting and student evaluation procedures which were to be an integral part of the project. Staff evaluation and forms for such evaluation were also presented and discussed at this time. Hypothetical problem situations were suggested by the author to give students the opportunity to role-play appropriate application of designed prompts and consequences. Particular emphasis was placed on defining criteria for work completed in the study area of GS, how to demonstrate study skills to students involved in particular kinds of assignments, how to and the importance of providing frequent feedback as to quality and/or accuracy of work completed by students, the necessity of frequent checks with students to assess how they were progressing, and provision of praise, especially as it related
to the management objectives. Various student purposes for coming to GS were discussed to help staff discriminate students along a continuum from those who needed very little monitoring and no instructional assistance to those who needed a great deal of both.

Training was limited to two sessions due to difficulties incurred when trying to arrange for several students to meet at one time and because training was to be an ongoing process as the staff worked in the GSP with students. Continued training was accomplished through the presence of the author. She worked along with the student staff the first several weeks to provide a model and feedback to the staff with praise and prompts for modifications in their behavior when interacting with students, as well as assistance with writing the contracts. Sample contracts with examples of criteria for various academic tasks were posted on the partitions.

The Student Staff Evaluation forms also provided feedback to student staff, as well as a means for determining the feasibility of their continuing to work with the project. Each day a staff person worked in GS, his performance was recorded on his checklist. Each individual's checksheet was then to be discussed and reviewed with him every week. During the last three weeks of the project, some student staff completed their own checklists and discussed them with the author. These checksheets provided data for recommending that student staff each receive one quarter credit for the semester.

After additional staff were selected and prior to opening GS for the entire day, another session was held with all student staff to review and introduce procedures. The author then worked with the new
student staff members as each began work with GS. It was occasionally necessary to hand-deliver memos and speak with student staff during their regular classes, especially on those occasions when there were plans to let student staff assume sole responsibility for operation of the project. During this last phase, with several new staff, notes were posted on the GS partitions commending individual staff members for specific behaviors.

Study Area Procedures

In order to provide a staff-student ratio of 1:3 or 1:4 and to increase the overall probability of success with the project, a maximum of 12 students were permitted to study in the area at one time. To control for this, each student had to obtain a pass from a staff member in the GS area which was stamped with "Guided Study Project," have it signed by the teacher who was responsible for the student during that class period and return to the area with the signed pass. These passes controlled for the amount of time students could spend in transit as times were specified on the passes. If students came during a class period, they brought passes from their teachers.

Upon entering the area, each student completed a contract with a staff member specifying the amount of time he would be in the area, what he intended to accomplish during that time and a statement of how the quality of his work would be determined. Each student was also given an evaluation form (see Appendix C) at this time which stated management objectives for his behavior while in the study area. For
students participating in GS for the first time, additional time was taken to explain both forms and answer questions. Staff gave feedback on the students' evaluation forms and verbally consequated behaviors as they did or did not occur throughout the time students were studying. The last three items on the Student Evaluation forms were checked and the "Task Completed" and "Results" sections of the contracts were completed just before students left the area. Both students and student staff initiated these checkouts. Staff checked work that had not previously been checked during the period. Students had to meet a specified criterion on the evaluation forms in order to stay during that period and to come another time. If a student did not meet these criteria, future uses of GS was contingent upon a short meeting with the student, teacher or principal, and staff person. This was to restate and reevaluate contingencies. Carbon copies of the contracts were made so that teachers, who had permitted their students to leave for a portion of the class period, could receive daily feedback as to the performance of their students. If a student was not returning to his class to give the teacher the copy, a staff member placed it in the teacher's mailbox.

Staff Activities

For efficient and effective operation of the project, student staff were intermittently prompted and consequated both verbally and via their evaluation forms, memos and notes on partitions to:

1. Stay in the area until the arrival of the next shift of student staff.
2. Try to get to the study area early for the class period they were working.

These two behaviors were essential because students frequently came to get GSP passes during their breaks between classes.

3. Notify the author at the beginning of the designated period if they were going to be unable to work during their time slot.

4. Insure that students, as well as themselves, had passes if leaving the GS area. If necessary to leave the GS area, assign students with whom they were working to another staff person.

5. State the time a student left the GS area on his stamped pass to get permission from the teacher to go to GS. This was important to monitor the time students spent in transition from the GS area to their classrooms.


7. Regard the contracts as binding documents.

8. Insure student success through determination of task length and criterion.

9. Continually check on students with whom they had filled out contracts to place checkmarks in "yes" or "no" columns on Student Evaluation forms; provide praise for appropriate study behavior, work accomplished, check students' work and to provide feedback as to accuracy and/or quality.
10. Provide prompts as to how work might be approached more efficiently or effectively. When providing assistance, to provide students with necessary prompts so that the task of responding was with them versus staff just giving answers.

11. If they did not have answers for material students were working on, to work out the solutions themselves, study the material to make best approximations for answers, immediately discuss answers with teachers who permitted these spontaneous visits to their classrooms, or obtain answer keys for future similar occasions.

12. Check out students, with whom they had completed contracts, a few minutes prior to the end of the class period so that students were not leaving without feedback. This was also important in terms of data collection for the study.

13. Indicate on contracts not only whether or not a task was completed, but also to what extent criterion for accuracy or quality had been met.

14. Assume responsibility for students within and across days in order to develop consistent patterns of working with them, to become more adept with remediation and the procedure of gradually raising criterion for task performance. This also enabled staff to determine when students could fill out their own contracts.

15. State contingencies positively.

16. Give one warning only for inappropriate behavior prior to returning a student to his regular class or study hall.
Data Collection

Data collected provided information in four major areas: Participation in the project, academic production, management by objective procedures and student staff effectiveness and efficiency. All of the data obtained were from permanent products which consisted of the forms used in the project (see appendices), attendance records, the teachers' schedule of classes and each student's class schedule. With these records, numbers were either tallied or percentages were computed.

Participation in the project was evaluated by the following:

1. The number of different students coming to GS. This data was obtained from contracts and from a daily record of student participation by class period.

2. The number of times each student came was also obtained by these two methods.

3. Where students came from was determined by the passes they brought to GS or by their individual class schedule and the daily attendance records.

4. Teacher participation or the number of different teachers from whose classes students came was determined in the same way.

5. The subject areas students studied while in GS were found under the "Task" section of the contracts.

6. The number of staff applications was counted and certain information from the questionnaires was tallied.
Academic production was evaluated by determining the percentage of contracts completed to criterion. This was obtained from the "Task Completed?" and "Results" section on the contracts. Percentage of contracts completed by each student was also computed to determine how contract completion compared with the number of times each student participated in GS.

Management-by-objective procedures were evaluated by:

1. Calculating the percentage of Student Evaluation forms with all behaviors checked "yes".

2. The number of times each management objective was met was calculated from the Student Evaluation forms.

3. Comparing the author's attendance with those times when objectives were or were not met. This was done by recording the dates when management objectives were met and not met and comparing this data with the author's record of staff attendance.

Lastly, data in the following areas were calculated in order to provide information on staff performance:

1. The percentage of contracts with tasks and criterion appropriately specified were obtained from the contracts.

2. The percentage of contracts which had been appropriately completed or checked out was obtained from the "Task Completed?" and "Results" section on the contracts. This was evaluated only on the basis of what had been specified for the task and criterion on each contract.
3. Staff signatures on contracts, which had tasks and results which were not appropriately specified, as well as incomplete Student Evaluation forms, were counted to determine the percent of staff who were represented in making errors in completeness.

4. Data on specific staff behaviors were obtained from the Student Staff Evaluation forms.

5. Attendance was recorded on attendance sheets constructed and kept by the author.
CHAPTER III

RESULTS

In order to determine if the Guided Study Project (GSP) was effective, several types of data were collected. Student attendance statistics were indicative of appeal to the student population. Contract completion data were used as indicators of possible benefits to students. Staff efficiency was evaluated to determine the feasibility of using peers as tutors. Data on management objectives gave an indication of abilities of staff to manage student behavior (and student cooperation when not under classroom control).

Over a ten and one-half week period, Guided Study (GS) was in operation for a total of 45 days and students came to GS 355 times. Figure 1 shows the number of students who came to GS each week. The data includes those students who came more than once. Rate of attendance was initially high during the first three weeks, then leveled off. Thereafter, the rate appeared to remain stable and varied slightly as a function of the number of days GS was open. In Part A of Figure 1, the Guided Study center was open for only two class periods per day through May 18 of the ninth week. In Part B of Figure 1, the center was open for all seven class periods and usage increased dramatically; nearly one-third of the total number used GS the first entire week. Also, GS was open all day the last two days of the ninth week which may account for the higher rate of
Figure 1. Number of students participating in the Guided Study Project (GSP) each week with number of days GSP open each week in parentheses.
attendance than that of the previous four weeks. Although the rate dropped during the second week of this condition, this could be attributed to the fact that the center was only open two days.

While GS was in operation, a total of 90 different students made use of the center; this was approximately one-third of the student population. Figure 2 presents a breakdown of the percent of students attending GS one time and more than one time. Of the 90 students who participated, two-fifths attended one time. A similar proportion attended two to five times. Approximately one-fifth attended more than five times; two persons attended 21-30 times.

When GS was open all day, a few students attended during more than one class period.

Also presented in Figure 2 is the percent contract completion for each grouping of students according to attendance. Contracts completed did not appear to be a function of the number of times students attended GS. Completion rate stayed at or above 70 percent. Those students who came only once or a few times completed contracts at approximately the same rate as did those who came 21 or more times. Lowest rate for contract completion was for the group who came 11-20 times.

The largest proportion of students came to GS from academic classes versus a scheduled study hall. It is important to note that only approximately 20 percent of the student population had a scheduled study hall. Most of these students had a study hall scheduled for the third through seventh class periods. Thus, GS was available to this population for only the last nine days of the project.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Figure 2. Percent of total (N=90) attending Guided Study one time and more than one time compared with contract completion for each group.
Eleven of the 17 teachers, or two-thirds of the staff, had students spending a portion or all of their instructional period in GS at least once. One-third of these teachers had students coming several times. One teacher, who taught ninth grade math and science classes, had several students who participated in GS on a regular basis.

In GS, students worked on a number of different school subjects including architectural drawing, art and driver education. A total of 17 different subjects constituted the areas in which students worked. Most frequently studied subjects were math, science and literature. This contradicts, to some extent, results from the student questionnaire which indicated that students would most likely prepare for math, English and history. Students came for time periods ranging from 20 minutes to approximately 50 minutes.

Figure 3 shows percent contracts met and not met by students according to criteria for completion. To meet these criteria, a contract had only to have some indication of completion such as Yes, a checkmark, or a ratio for number correct over number attempted in the "Task Completed?" or "Results" section of the contract as marked by student staff. If a student remediated to criterion, his contract was counted as completed. Completion rate always stayed at or above 65 percent; however, between 65 percent and 100 percent completion rate was variable. Completion rate did not appear to vary as a function of the number of days GS was open per week, the number of daily class periods it was in operation, or the number of contracts written. Incomplete contracts appeared to be a function of assignment.
Figure 3. Percent contracts met and not met by students according to criterion for completion.
length, criterion for accuracy or quality of academic performance and ability of staff to provide necessary assistance, as well as off task behavior, by students and inaccurate performance in completing a task. Contracts which were written but not checked by staff were not included in this data.

Although it is not indicated in Figure 3, the center coordinator was not in the high school building either for portions of or for entire days on seven of the 45 days that the project was in operation. This was planned to determine the feasibility of the project's operation without the author's presence. This occurred during the latter weeks of the project and GS was open for all seven class periods on six of these seven days. During these times, when GS was not being directly supervised by an adult, 53 contracts were written for students. Of this total, 91 percent were rated as successfully completed. During these same days when the center coordinator was present, 55 contracts were written and 91 percent were rated as completed. Thus, presence or absence of the coordinator did not appear to have an effect on contract completion.

In order to determine if the students who used the Guided Study center could follow the necessary procedures for participation, data were taken on the behaviors as specified on the Student Evaluation forms. These behaviors were required for the center to function in a school setting. Of the 275 Student Evaluation forms from which data could be tabulated, 241, or 88 percent, had all objectives on them meeting criterion. Each of the behaviors evaluated are presented in Table 1 along with the percentage of times that students did meet
<table>
<thead>
<tr>
<th>No.</th>
<th>Management Objective</th>
<th>Percent Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Obtained signed GSP</td>
<td>97%</td>
</tr>
<tr>
<td>2</td>
<td>Completed contract with student staff</td>
<td>100%</td>
</tr>
<tr>
<td>3</td>
<td>Arrived at GSP area on time</td>
<td>97%</td>
</tr>
<tr>
<td>4</td>
<td>Began work within four minutes of bell</td>
<td>97%</td>
</tr>
<tr>
<td>5</td>
<td>Remained on task</td>
<td>94%</td>
</tr>
<tr>
<td>6</td>
<td>Refrained from disturbing others</td>
<td>97%</td>
</tr>
<tr>
<td>7</td>
<td>Obtained feedback</td>
<td>99%</td>
</tr>
<tr>
<td>8</td>
<td>If left GSP area, had pass</td>
<td>99%</td>
</tr>
</tbody>
</table>
each management objective.

The management objective which showed the lowest percentage for not being met was "remained on task." Beyond this result, all other management objectives were met 97 percent of the time or greater. The two management objectives which students had to meet in order to return to GS were (number 6) "refrained from disturbing others," and (number 8) "if left GS area, had pass." Percentages of meeting these objectives were 97 and 98 percent, respectively.

There were several kinds of data obtained which provided information on staff recruitment and staff performance in GS. Initially, a total of 25 students submitted applications to work in GS as staff for the project. In addition to this group, who were all interviewed, several others were asked to interview. The project began with 20 staff to operate GS five days a week for the first two class periods along with a one-half hour block before school began. Nine of these students functioned as staff throughout the entire project. Prior to opening GS all day, several more students were interviewed. Twelve additional people began working in the project. From this group, nine continued as staff until the end of the school year. Some of the original staff asked to work during a later class period once GS was open for the entire day.

Each staff person worked the same class period throughout the week. They worked from two to five days per week. Days they were assigned to GS remained constant. Two staff persons worked for two class periods on certain days. Prior to the implementation of GS, the students who became staff functioned as cadet teachers, were
doing independent study, had a scheduled class or study hall.

Very few student staff had perfect attendance throughout the duration of the project. Most of those student staff who worked during class periods when several students came to GS came on a regular basis. They were also the students most likely to continue with the project until its termination. Very few students used GS during the first hour class period and during the one-half hour period before the school day began. Student staff responsible for these time periods had the most sporadic attendance; it was from this group, also, that the greatest number of students decided not to continue with the project.

There were 122 occasions of individual staff evaluation from which data could be tabulated. Each occasion consisted of evaluation on the 10 staff behaviors on the Student Staff Evaluation checklist (see Appendix C). These were the behaviors for which initial and continued training were provided. There were 44 percent perfect evaluations. Those evaluations which were not perfect most frequently demonstrated weaknesses in only one or two staff behaviors. Weakest areas in staff performance, according to these checklists were "On students' daily contracts, identified measurable criterion," and "Accurately evaluated students' completed tasks." Also weak was "Accurately evaluated students on Student Evaluation Form." Student staff were rated as having met criterion on each of these behaviors 88, 90 and 90 percent of the time, respectively.

In order to meet criterion for "Accurately evaluated students on Student Evaluation Form," student staff were to intermittently
check on students three times for "Remained on task" for the period of time a student was in GS. This was in addition to checking each of the behaviors on the Student Evaluation form as they occurred, versus checking them all at the end of the class period. Those behaviors which student staff performed most consistently to criterion were "On time," "Appropriately consequated students' behavior," and "No demonstration of favoritism" (see Appendix C).

It is important to note that evaluation was conducted only approximately 50 percent of the time. This was due, in part, to the fact that there were occasions when no students came to GS; therefore, student staff could not be evaluated other than for "On time." Also, verbal or written feedback on these forms was not consistently communicated to the student staff. Lastly, there were frequently areas on the Student Staff Evaluation forms which were marked as "not applicable," for a particular session or whereby an accurate evaluation could not be made because the occurrence or nonoccurrence of some behaviors had not been observed.

Another measure of staff efficiency and performance was the number of Student Evaluation forms which were correctly filled out; 86 percent of these forms had all behaviors checked. The validity of these checks, which showed whether or not management objectives were met, however, was not assessed.

The most important measures of staff performance were how well the contracts were written and how thoroughly the contracts were checked out or completed. Figure 4 presents the percent contracts correctly written for students by student staff. To meet criteria
Figure 4. Percent contracts correctly written by student staff compared with staff performance in correctly checking out contracts for completion.
for completeness and accuracy, the contracts had to have the subject area and statement of what the student wanted to complete within a certain amount of time. Ideally, the tasks were stated as objectives; however, this did not often occur. Statement of criteria was to include quantity, accuracy or quality as each applied to the task.

Contracts correctly written by staff stayed at or above 60 percent. For the first six weeks of the project, a little more than one-half of the project's duration, contracts correctly written stayed at 82 percent or higher. The trend for the last four and one-half weeks appeared to be one of declining efficiency in terms of staff performance. In addition, when comparing percent of correctly written contracts with the number of students attending GS each week, the four weeks when students' attendance ranged from 13 to 17 were when the highest percents (88 to 100 percent) for correctly written contracts were obtained. Also, it was during the five weeks when the greatest numbers came to GS (30, 31, 32, 45, 113), that the percentages for correctly written contracts were the lowest, ranging from 60 to 70 percent.

Figure 4 also illustrates the percent contracts appropriately checked by student staff. An appropriately checked contract was one which had a "yes," checkmark, positive comment such as "well done" or a ratio. This criterion for student staff differed from that for contracts successfully completed by students in that the contracts had to be checked out only in terms of the criterion specified for task completion. Staff appropriately checked contracts 72 percent or more of the time throughout the ten and one-half week period. For
eight of the 11 weeks, percents stayed at 81 or higher. As with contracts correctly written, the trend also appeared to be one of less competency by student staff over time. Staff performance in checking out contracts did not appear to be related to the number of students participating in GS each week.

Overall, as can be seen in Figure 4, staff competency in checking out contracts was better than that in writing contracts. Table 2 presents an analysis of the percent times each error in writing and checking contracts occurred. In writing contracts, the major area of difficulty was in specification of criterion. The major area of difficulty in checking out contracts was when contracts were not checked out at all.

A review of the data on evaluation of staff performance in correctly writing and checking out contracts and marking Student Evaluation forms shows that 53 percent of the staff were represented as having made errors in writing and checking out contracts; 26 percent were represented as having made errors in marking Student Evaluation forms. The author was represented in both of these figures.
TABLE 2

Analysis of Percent Times Each Error in Writing and Checking Out Contracts Occurred

<table>
<thead>
<tr>
<th>Errors in Writing Contracts</th>
<th>Percent</th>
<th>Errors in Checking Out Contracts</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion lacked specificity</td>
<td>65%</td>
<td>Contracts not checked in terms of criterion specified</td>
<td>19%</td>
</tr>
<tr>
<td>Criterion stated in terms of quantity versus quality</td>
<td>11%</td>
<td>Contracts not checked</td>
<td>68%</td>
</tr>
<tr>
<td>No criterion stated</td>
<td>13%</td>
<td>Completed task not checked accurately</td>
<td>13%</td>
</tr>
<tr>
<td>Task lacked specificity</td>
<td>11%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER IV

DISCUSSION

The present study began as a demonstration project in the school in which the study was conducted. It investigated whether students would use Guided Study (GS) and complete contracts, as well as whether student staff could manage the behavior of their peers and conduct the necessary procedures for the program's operation. The principles of feedback and reinforcement along with components of peer tutoring, contracting and self-management were used in the design of the Guided Study Project (GSP). Results of the study clearly indicated that students did participate in the project; they did complete contracts; and they did meet management objectives. Student staff did correctly write and check out contracts, conduct the necessary procedures for operation of the project and manage the behavior of their peers within the structure of the GS program.

Data from the Student Questionnaires, administered to students before the implementation of the project, predicted a higher participation in GS than what actually occurred. Approximately 62 percent of the student population responded to the questionnaire. Of those responding, 62 percent indicated they would be interested in using part of their school day to study or prepare for classes. The greatest number of these students stated that they would probably use GS two or three times a week. Nineteen students stated they would use

40
the center before school; nineteen students also indicated they would use the center during the first class period. There was, however, little participation in GS during either of these times.

More students came first period during the first few weeks of the project than during the latter weeks of the project. Because rate of attendance was so low for the period before school, GS did not remain open at this time after the fourth week of the project. Reasons for minimal participation first period were not clear. Student staff working during these times were among those recognized as being very capable. In fact, when the project was opened for the entire day, a number of them worked during later class periods when student participation was high. One explanation would be that the partitions used in the library served as a discriminative stimulus to students that GS was open. Student staff were responsible for putting the partitions up; they rarely did so until after the author's arrival to the center. This was often after first period had begun.

To some extent, number of students attending GS for any class period may have been attributed to the number of days or class periods per day that GS was in operation. Days that GS was not conducted in the school were, in part, due to absence of the author (center coordinator). These absences did not include those which were scheduled to occur; however, student staff were notified of the author's absence and asked to operate GS on that day. It may have been that presence of the center coordinator was also a discriminative stimulus to student staff to operate the center. This was particularly true if there was no communication between staff who worked consecutive
hours. There were also times when GS was not open due to class meetings, assemblies, construction in the library where GS was conducted, and exam week.

The fact that nearly one-third of the total usage of the program occurred during the first entire week that GS was open all day showed that additional students would participate when the center was open all day. The number of students who participated in GS may have been due to the extent to which teachers recognized the program as a viable complementary procedure to their instructional programs, discussed GS in their classes, and the number of times they presented it as an option to students. The methods by which students were taught would also affect student participation in GS. In those classes, for example, whereby teachers relied largely on lectures, there would be little opportunity for any kind of individualization.

Although a noteworthy proportion of the students in the high school came to GS, a number of them came only one time. It may have been that GS was too structured for them. This would include students who had a high level of self-management skills, as well as those who had histories of minimal self-management skills for task completion. Among this latter group were many students who had a study hall period. This consisted of sitting at tables in the cafeteria with little or no supervision. These people typically used this time talking. Although they might have very probably benefited from use of GS, they may have preferred the environment which was the least restrictive.

Beyond the consequences for students which GS provided within the program and whatever consequences teachers might provide, there
were no additional reinforcers for making the initial response of choosing to go to GS. Those who made this initial response, typically proceeded through the chain of behaviors resulting in contract completion. Unlike Lovitt and Curtiss (1969), Bolstad and Johnson (1972), and Glynn and Thomas (1974), whereby students were already present in classrooms, use of GS and the subsequent opportunities for learning self-management skills, were contingent upon students' attendance.

It is important to consider why students did come, as well as why they did not. In addition to the opportunity to complete work, students did come to receive additional help when individual assistance was not available in the classroom. GS may have served those who did not have a study hall during the day, but had a job or other activities after school and, consequently, had little time to prepare for classes outside of school. Students also came (as per verbal report of students and teachers) to GS to get out of certain classrooms. When the program was presented to students, emphasis was placed on the fact that it was a peer-managed versus an adult-supervised program. It was also stressed that students would have the opportunity to learn to manage their own behavior. This concept may have appealed to students.

Fifteen days of data were collected on the number of times each student asked for help on an assignment, the subject area, and staff person who provided the help. Student staff had been asked to record this data on the daily form provided, but it was not kept on a regular basis. The intent for collecting this data had been to determine the subjects in which students most frequently asked for help and those students who most frequently asked for help. Had the data been
complete, it would have given an indication of those students needing a great deal of assistance versus those needing very little. This data could have then been compared with each student's rate of contract completion and attendance. Data on the subject areas would have indicated for what areas GS needed to have competent staff and/or possibly answer keys or teachers' editions to textbooks. It would also have been helpful if data had been collected on whether student staff had been able to provide necessary instructional help when students asked questions.

On occasion, there were class periods when there were more than the designated number of students allowed in GS than the number for which the program had been designed; that is, the student-staff ratio was not maintained at 1:4. Priority was placed on serving numbers of students. However, increased numbers of students per class period did not appear to hinder the operation of the project or reduce the rate of contract completion for the nine days when this occurred. Data on the number of students in attendance compared with contract completion over an extended length of time would be necessary to verify this. The procedure of restricting the number of students who could participate in GS each class period may be worthwhile if limited access increased the reinforcing value of the program. This is a question, however, which would have to be experimentally determined.

Although the number of days GS was open did appear to affect attendance, it did not appear to affect the rate of contracts completed. Although variable, the rate was generally high. The high rate of contract completion was probably due to a number of factors.
The program was well structured and provided several antecedents. Students had to have permission from their teachers and a signed pass to attend. Filling out a contract with a staff person and being presented with a list of behaviors with which they were expected to comply also arranged for stimulus control. In addition, individual help and consequences for correct work and appropriate study behavior appeared to affect contract completion.

As previously demonstrated by Bristol and Sloane (1974) and White-Blackburn, Semb, S. and Semb, C. (1977), contracting in GS appeared to increase study rate and to increase assignments completed. Probably the most critical factors which affected contract completion were the Principles of Effective Usage as discussed by Michael (1967). Through the contracts, students participated in setting small, attainable goals for themselves. Criterion for contract completion focused on completion of a small unit of work with specification for accuracy or quality versus spending time at a task. Student staff frequently checked students' work for accuracy while they were working and contracts were checked out as soon as students completed tasks. The principle of consistency was applied in that contracts were considered as binding documents. Even if task length or criterion for a task did not program for a student's success, the contract was still marked as not completed. Notes were then made as to how success might be ensured in the future, both for the student and teacher and for staff use. The opportunity for students to remediate immediately also seemed to affect contract completion.
The high percentage of management objectives met by students participating in GS demonstrated that inappropriate conduct and study behavior were not problems. In addition, results showed that students did follow the procedures required for the operation of the GS project in a school setting. This was one of the most critical areas because the administration and some teachers were very interested in the development of a program which benefited students, but also one which accounted for students' whereabouts and orderly behavior. This was particularly emphasized when procedures for using student staff to manage the program were discussed.

The objective which was met the least number of times by students, "remained on task," may have been due to the center coordinator's frequent monitoring of this objective. Although staff were suppose to check out students three times per class period for this behavior, this did not always occur. Whether frequent checks for this behavior were necessary, especially for some students, is not clear. It may still have been a necessary procedure for some students in terms of shaping. Again, these are questions which would have to be experimentally determined.

For students who demonstrated consistent compliance with the objectives, the Student Evaluation forms could have eventually been faded out. Permitting students to record their own behavior on these forms could have been an intermittent step in a fading procedure. Support for implementing such a self-recording procedure is found in the Broden, Hall and Mitts study (1971) and the Glynn and Thomas study (1974). Additional support for self-recording would be, as Ballard
and Glynn (1975) pointed out, that when students are taught to observe, record and reinforce their own behaviors, demands on the teacher or contingency manager are reduced. The authors suggested that students are also provided with skills which might be more conducive to maintenance and generalization than those relying on externally manipulated contingencies.

There were only a very few occasions when students were asked to leave GS or asked not to return as a result of having not met necessary management objectives. No problems accrued from the teacher or the student when this was necessary. It may have been that the Student Evaluation forms, like the contracts, provided stimulus control for students' appropriate behavior while in the center. The management objectives were discussed with students upon their first experience with GS. Equally important is that these forms provided a clear-cut basis for communicating expectations to students, thereby reducing the opportunities for inappropriate behavior.

Overall, use of students as staff for the GSP proved to be feasible. To a large extent, students working as staff, came to the GS to work during their assigned periods on a regular basis, accurately wrote and checked out contracts with students, managed the behavior of their peers and conducted the necessary procedures for the operation of the project. Initially, there were difficulties with recruitment of students to work as staff. Many of the students who were viewed as being competent by their teachers were already working in other capacities in the school. This suggests the possible advantage of having students register to work in GS for the following year when registration is undertaken in the spring.
There were several more interviews conducted than applications received. This was because many of the students who did apply did not have the necessary competencies in academics or were not performing well enough in academic classes whereby their teachers wanted them leaving classes. Whereas the author initially sought to recruit 11th and 12th grade students as staff, many of the staff who proved to be the most competent and reliable were 10th graders.

When introducing the program to the classes, during interviews and also during training sessions, it was stressed to students that staff would be selected on the basis of their competency, teacher references and their ability to work with peers. They were also told that they could earn one-fourth credit based on their evaluations. Also stressed was that an eventual goal of the project was to have student staff largely responsible for its operation. These points may have appealed to students. Reasons for staff attrition were little or no opportunity to work with students (due to lack of or minimal attendance by students), their own decision that they could not take further time from a scheduled class, a teacher's decision that a student could not miss additional classes, involvement with other activities (especially seniors), or disinterest.

Although initial training for staff was minimal, in many ways, it appeared to suffice in terms of skills staff needed to conduct the program. As previously demonstrated by Coissart, Hall and Hopkins (1973) and Gladstone and Sherman (1975), student staff did learn to effectively use reinforcement for appropriate behaviors along with the practice of feedback. The feedback which the center coordinator attempted to provide
on an ongoing basis may have helped to maintain and/or increase appropriate staff management behaviors. The practice of feedback to increase and/or maintain staff behaviors was found to be effective by Panyan, Boozer and Morris (1970), Cooper, Thompson and Baer (1970), Barnard, Christophersen and Wolf (1974), and Quilitch (1975).

The major area which should have been emphasized during initial training was in writing contracts, especially criteria. Training might have been more effective had units of instruction, based on Vargas' six levels of objectives, been developed along with appropriate instructional materials and evaluation measures to assess whether competencies had been met by students. This would have been more feasible had students been selected at the beginning of the school year. They would have then had scheduled class periods for such an instructional program. If training was also to be an ongoing procedure, it would have been beneficial to have had a means for tracking which staff had received further instructions and training and had demonstrated competencies in specified areas. Data which might have been collected in the present study, would have consisted of a finer analysis of the kinds of errors made in writing tasks and criteria for contracts, as well as the kinds of objectives or tasks and criteria for which students needed proficiency in writing.

Measures taken, which demonstrated the effectiveness of using students as peer managers and tutors, were the percentage of contracts completed by students, the percentage of contracts correctly written and completed by staff, and the percentage of management objectives met by students. Results from these measures also demonstrated that
students could conduct many of the necessary procedures for the program's operation. Results indicating that contracts were completed by students at the same rate when the center coordinator was absent, as well as when she was present, may have showed that the program could function without continuous adult supervision and monitoring. Further research, however, would need to be undertaken to verify this.

The percentage of contracts correctly written did appear to vary as a function of the number of contracts written. The percentage of correctly completed contracts by staff did not appear to be related to the number of contracts written. This may have been the result of contracts being written with less specificity and, consequently, contracts could be more easily checked out or completed by staff.

There were some difficulties with the use of the Student Evaluation forms. Behaviors were not well specified such that information from them could be easily communicated to student staff. It was not always possible to observe, even subjectively, each of the behaviors for each staff member. There was not always time available to interact with students regarding their performance as evaluated on the forms.

There were few contingencies provided within the GSP for acquisition or maintenance of staff performance. The author used only those incentives which were already available in the school setting. This included the one-fourth credit which could be earned at the end of the semester and any recognition or praise staff might receive as a result of their involvement with and participation in the program. The novelty of the program and the opportunity to get out of class to work may also have functioned as incentives.
In order for a program such as the GSP to function and to achieve its goals over time, one major aspect of the program would need further development. It entails the rather global concept of more directly involving the administration, supportive personnel and the teaching staff. If the ultimate goal of the program is to have it maintain itself and to operate largely through the efforts of student staff, versus personnel from other sources (such as university personnel), then school personnel, themselves, must assume responsibility for further planning, problem-solving, and the design and implementation of antecedents and consequences which are either already available in or could be integrated into the system. This would entail administrative decisions which give the teaching staff the opportunity to become involved under feasible conditions and which also provide consequences for teacher participation. Teachers, in turn, would need to provide opportunities for meetings with student staff, along with consequences for staff participation and performance and provision for a tracking and monitoring system to assess the program's progress. Certainly school personnel could make use of and benefit from further research conducted by outside sources, as well as consultive services, to attain its goals.

Several procedures and techniques could be integrated into such a framework. Problems incurred in attempting to maintain a communication system would be alleviated. Teachers might choose to learn more about individualization within their classrooms which would be supported by the GSP. They might develop a plan for contracting with students in their classrooms to use GS. Such a program might reach
some of those students who never came to GS or came only once due to histories of low academic performance. A psychology class might be the focal point around which students could learn the necessary skills for working as student staff. Procedures for maintaining staff performance could be further developed and might include providing credit equivalent to other courses. Even a student council, which probably most closely approximates a network whereby all levels within the school are involved, could become involved with a GSP.

Lastly, a program like GS seems to be a potential resource for providing remediation for students or even necessary prerequisite skills to perform in the classroom. In many schools, beyond the regular education and a special education room, there are no intermediate options or services available to students who need academic help.

Beyond suggestions for further development of the program are areas which should be further evaluated. It would be worthwhile to evaluate the extent to which GS affects students' performance in terms of grades, to determine which components of the program are most effective in teaching students self-management skills and whether self-management skills are, in fact, acquired as a result of certain components or procedures.

Certainly, reliability should be taken on many of the measures discussed previously with primary emphasis on reliability for the data collected on whether students met management objectives and whether contracts were correctly written and checked out. Direct observation might be undertaken to determine whether Student Evaluation forms were being correctly marked and whether student staff were accurately checking completed assignments.
In summary, the original purpose of the project was to provide an option for students to complete classwork. Through the implementation of a combination of components from the contracting, peer-tutoring and self-management procedures previously developed in applied behavior analysis, the GSP demonstrated success. Finally, Quilitch (1975) in discussing retarded populations, expressed the concern that perhaps the technology of therapy and training had surpassed the technology for program implementation. The present study sought to use the technology available to develop a further means of program implementation which would benefit students and be feasible and operable in a high school setting.
APPENDIX A

GUIDED STUDY PROJECT

Student Questionnaire

1. Would you be interested in using a part of your school day, outside of your regular classes, to study or prepare for classes?
   
   Yes
   No

   (If your answer to question 1 was, "No," you do not need to answer the remaining questions.)

2. In a place designed for your studying needs:
   a. How many days each week would you spend there?
      
      1  2  3  4  5
   
   b. How much time each day would you spend there?
      
      1/3 class period  1/2 class period  2/3 class period  1 period
   
   c. Would you be interested in having this service available at 7:45 A.M.?

3. For what classes would you most likely spend time preparing for during this study period?

4. During what hours of the day would you be most likely to use this service? *Underline all that apply.
   
   1st  2nd  3rd  4th  5th  6th  7th

5. One teacher will be asked to help Mr. Migs with the Guided Study Project. List two teachers whom you would like to help Mr. Migs.

6. List five students you would like to have serve as student staff members. (You may include your own name.)
APPENDIX B

GUIDED STUDY PROJECT

Application for Student Staff

Name__________________________

Grade__________________________

Class Schedule:

<table>
<thead>
<tr>
<th>Hour</th>
<th>Class</th>
<th>Approximate grade average for class</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st hr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd hr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd hr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th hr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5th hr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th hr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7th hr.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Are you currently working as an office or library assistant or as a cadet teacher, etc. and receiving credit under this system?

If "Yes," to the above *

During what class periods do you work?

What faculty member(s) are you responsible to?

List those classes which you have taken or are currently taking in which you feel competent to help other students.
What personal qualifications do you see yourself as having which would make you an effective student staff member of the Guided Study Project?

During what class periods would you be able to work?

How many days each week would you be able to work? What days?

List those teachers whom we may check with concerning your qualifications for a position as a student staff member.
APPENDIX C

GUIDED STUDY PROJECT

Student Staff Evaluation

|------|-------|------|--------|------|

Student Staff Name ___________________________

1. On time

2. Explained GSP to new students (contract and evaluation)

3. On students' daily contract:
   a. Helped to determine appropriate task for student
   b. Identified measurable criterion
   c. Accurately evaluated student's completed task

4. Periodically checked with students

5. Assisted students with classwork

6. Appropriately consequated students' behavior:
   a. Acknowledged work done correctly
   b. Acknowledged good behavior specified on the Student Evaluation Form
   c. Gave one warning for inappropriate behavior
   d. Refrained from reprimanding or disciplining students

7. Accurately evaluated students on Student Evaluation Form

8. Gave feedback to students on:
   a. Contract
   b. Student Evaluation Form

9. Took care of student forms and GSP materials
10. No demonstration of favoritism or partiality towards classmates observed.
APPENDIX D

DAILY CONTRACT FOR GUIDED STUDY PROJECT

Date____________________

In the next ________ minutes, I will accomplish the following task(s).

1. Task: Task Completed? Results

   Criterion: (How will quality be determined?)

2. Task:

   Criterion:

I understand that whether or not the above task(s) has been completed to criterion must be agreed upon by myself and the GSP staff member.

Student's signature____________________

GSP Student Staff signature____________________

Comments:
APPENDIX E

GUIDED STUDY PROJECT

Student Evaluation Form

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Obtained GSP pass and had it signed by teacher before coming to GSP area.

2. Completed contract and had it signed by GSP staff member.

3. Arrived at GSP area on time.

4. Began working on assignment within four minutes of bell.

5. Remained on task 90% of the time.

6. Refrained from disturbing others.

7. Obtained feedback on the following before leaving GSP area:
   - Daily Contract
   - Student Evaluation Form

8. If student left GSP area for a drink, the locker, etc., he:
   - left with a pass
   - returned within 4/5 minutes
   - had completed one task

Criterion: In order to continue to have privilege of coming to the GSP area,
   a) the starred items must have a mark in the "Yes" column
   b) a total of six columns must be marked Yes.

Comments:
BIBLIOGRAPHY


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


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


Schwartz, G. J. College students as contingency managers for adolescents in a program to develop reading skills. *Journal of Applied Behavior Analysis*, 1977, 10, 645-655.


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