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An Application of a Token Economy in a Residential Treatment Center for Pre-adolescent and Adolescent Girls

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Title: An Application of a Token Economy In a Residential Treatment Center for Pre-Adolescent and Adolescent Girls

APPROVED BY MEMBERS OF THE THESIS COMMITTEE:

David A. Krug, Chairman

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The purpose of this study was to increase the level of completed academic tasks through the use of a token economy system with female adolescents in an institutional classroom setting.

A 70 percent anticipated completion of academic tasks was the primary aim. Secondly, would there be an 80 percent increase of appropriate behaviors following intervention?

Six emotionally disturbed girls living in an adolescent treatment center; subjects of this study, were unable to

adjust to the socially acceptable norms of behavior. Each of these girls was described as too disturbed to learn.

Utilizing the principles of behavioral change the experimental classroom was set up to assist each girl in increasing her on academic task behavior and/or to enable her to work and learn independently in the classroom. The environment was arranged in such a way that when a girl interacted with it, learning was maximized.

Results found the average classroom percent of weeks meeting or exceeding 70 percent was 31 percent. The days meeting 70 percent criteria was 51 percent. The class average of on academic task rose from 10 percent to 88 percent.

AN APPLICATION OF A TOKEN ECONOMY IN A RESIDENTIAL TREATMENT CENTER FOR PRE-ADOLESCENT AND ADOLESCENT GIRLS

by

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TO THE OFFICE OF GRADUATE STUDIES AND RESEARCH:

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The completion of this study was made possible with the assistance and interest of several people. Appreciation is expressed to Dr. David Krug, my advisor. A man who gives knowledge with joy.

A special appreciation to Jake, Marie and "Willy" who proved "your friend is your needs answered."

Kahlil Gibran

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CHAPTER I

INTRODUCTION

The educational needs of emotionally disturbed children are receiving increased attention within programs involving residential treatment agencies. Since therapy for a child disturbed enough to need residential placement away from home is a long term process, educational provision for these children, no matter the degree of their disturbance, becomes a disciplinary challenge.

Six (6) emotionally disturbed girls living in an adolescent treatment center, the subjects of this study, were unable to adjust to the socially acceptable norms of behavior. They disrupted their academic process and exhibited extreme problems in interpersonal relationships within the school and home environment. Each of these girls was described as too disturbed to learn.

There is a relatively small but rapidly increasing accumulation of data which indicates that behavioral principles, reliably demonstrated in learning laboratories are also applicable in special education classrooms to managing, modifying, building and maintaining the behavior of the students (Haring and Phillips, 1962; Bijou, 1964). The challenge for special educators is to utilize behavioral

principles to modify undesirable and maintain desirable behavior in emotionally disturbed children (Michael, 1963).

The fundamental concept upon which behavioral principles rely is that behavior, abnormal as well as normal, is learned. Within the classroom the teacher is interested in each child's interaction with his/her environment. As Skinner states, so to the teacher must facilitate "the connection between a response and its consequences" (Skinner, 1963).

Analysis of these connections has demonstrated behavioral principles which account for a major portion of human activity. Behavior is maintained by its effect on the environment and is composed of those activities which alter the external environment and in turn alter the subsequent state and behavior of the individual (Nurnberger, Ferster and Brady, 1963)

Utilizing these principles of behavioral change, an experimental classroom was set up to assist each girl in increasing her on task academic behavior and/or to enable her to work and learn independently in the classroom. The environment was arranged in such a way that when a girl interacted with it, learning was maximized. The behavior technique used was an academic behavior oriented token economy system.

PURPOSE STATEMENT

A review of research by Krug (1972) on token economies has shown the efficacy of this approach in a wide variety of settings, with an extensive population. However, no studies with severely disturbed adolescent girls in a residential setting have been cited.

The purpose of this study was to determine if a token economy system would increase the level of completed academic tasks through the use of this system with female adolescents in an institutional classroom setting.

First question: Will the students meet and maintain a level of 70 percent completion criteria for academic tasks following intervention?

Second question: Will the students meet and maintain the level of 80 percent for appropriate behaviors following intervention?

CHAPTER II

RELATED READINGS

Praise and other social stimuli connected with the teacher's behavior have been established as effective controllers of children's behavior (Allen, Hart, Buell, Harris, and Wolf, 1964; Scott Burton, and Yarrow, 1967; Zimmerman and Zimmerman, 1962). When the teacher's use of praise and social censure is not effective, token reinforcement programs have often proven to be successful in controlling children. (Kuypers, Becker and O'Leary, 1968; O'Leary and Becker, 1967; Quay, Werry, McQueen, and Sprague, 1966; Wolf, Giles and Hall, 1968).

Although token reinforcement programs in classrooms seem to be relatively new phenomenon, the fact that a child should be rewarded for good behavior or academic achievement is certainly not a twentieth century discovery. Treats such as nuts, figs and honey were used as rewards in the twelfth century of the Torah (Birnbaum, 1962). In 1529, cherries and cakes were given to students of Erasmus, teacher of Latin and Greek (Skinner, 1966). In England in the early nineteenth century, Lancaster gave pictures to children who were promoted (Curtis and Boultwood, 1960). Teachers for many years have used stars and colorful pictures for academic

or musical achievement, and Sunday school teachers to this day award medals and cards for perfect attendance. However, the systematic distribution of prizes or tokens on a continuous basis in a classroom had not been seen until this last decade. In 1961, Ayllon and Azrin launched their token reinforcement program with adult psychiatric patients (Ayllon and Azrin, 1964) and Staats developed a token program with children (Staats, Staats, Schutz, and Wolf, 1962).

The advantages in using tangible reinforcers are many.

1. The number of tokens can hold a simple value relation to the amount of the reinforcer
2. The tokens are portable and may be removed from the situation in which they are earned
3. There is no maximum in the number of tokens a person may possess
4. Tokens may be used directly to operate devices for the instant delivery of reinforcers
5. Tokens are durable and can be continuously present during an absence
6. The characteristics of the token can be standardized if need be
7. Tokens can be made somewhat indestructible in order that they do not deteriorate during an absence
8. Tokens can be made unique and non-duplicable so that one is assured they are received only in the authorized manner (Ayllon and Azrin, 1968).

O'Leary, Becker, Evans and Saudargas (1969) evaluated the effects of classroom rules, educational structure, teacher praise and token reinforcement in changing disruptive classroom behavior.

With the children in this study the combination of rules, structure, praising, appropriate behavior and ignoring inappropriate behavior was generally not effective in reducing disruptive behavior. There was only one of the seven children who exhibited a decided change in behavior due to these procedures. When the token reinforcement program was added the frequency of disruptive behavior decreased in five of the six remaining children. The program consisted of structure, concise rules, such as, "We sit in our seats," praise and ignoring, tokens or points, and back-up reinforcers. These reinforcers consisted of such things as candy, dolls, comics and toy trucks.

Subsequent withdrawal and reintroduction of the token program further reduced the amount of disruptive behavior.

The effectiveness of token programs is also evaluated with respect to their probability of modifying four broad classes of behavior: "(a) decreases in disruptive behavior, (b) increases in study behavior, (c) increases in academic achievement and (d) changes in other behaviors not selected as primary targets for remediation but which may change as a function of the token program, for instance attendance and bartering" (O'Leary and Drabman, 1971).

Many token reinforcement programs have been built within the ABAB design or variants thereof. The ABAB design involves a pre-treatment or base period, a treatment or token period, a return to the base period, a treatment or token period, a return to the base period conditions, and finally a reinstatement of the treatment or experimental conditions (Bijou, Peterson, Harris, Allen and Johnston, 1969). The ABAB process is not used in many school token programs, mainly time becomes a factor and principals, parents, and teachers need results instantly.

Evaluations of classroom behavior have been typically obtained from observers who were in the class throughout the program and who noted the frequency of various behaviors according to a specified and predesignated code. Reliabilities of classroom observations were usually obtained by having two or three observers simultaneously record any specific behavior of one child during a specific time and then analyze the extent of the observer agreement. Most often standardized tests as well as periodic spot tests are given to evaluate academic achievement. Video-taping is often used to collect even more unbiased data. This study found video-taping a method most advantageous as continued interruptions by the data observers were found to disrupt the classroom.

In summary, token economy programs have been found to demonstrate significant successes when executed with proper

care and consulation.

CHAPTER III

CLASSROOM SETTING

The classroom utilized in this study is situated within a non-sectarian twenty-four residential group care facility. It is designed to provide treatment for younger adolescent and pre-adolescent girls who are unable to live successfully at home or in foster homes because of emotional maladjustment problems in interpersonal relationships and/or major social difficulties in school or in the community.

The purpose of the program is to develop and encourage a level of social and emotional adjustment which enables a child to live harmoniously and responsibly with herself, family and community. The agency provides the following integrated services:

GROUP LIVING

There are two cottages, each with a capacity for twenty children and a third unit for five children. The staff attempts to provide an atmosphere contributing to the development of each child's potential. Hopefully through this positive situation there is created a child-staff planning program, supported by realistic activity planning

and normal identification with adults.

SPECIAL EDUCATION

The school program tries to provide each child with an optimal learning situation based upon individual needs. Attention is given to encourage successful approaches to learning, study habits and rational thought processes so that the children may become increasingly independent, especially in a school setting.

CLINICAL SERVICES

Clinical Services provides counselling with a child and family by the social work staff. Psychiatric, psychological and medical services are also available on an on-going basis appropriate to the needs of the child and resources of the agency.

TREATMENT TEAM

Each child requires individual planning and treatment which are decided by the team or milieu (social workers, teachers, child-care staff) involving a constant sharing and integration of contributions from the different disciplines. Supportive staff include administrative and clerical staff, cooks and maintenance personnel.

PHYSICAL FEATURES OF CLASSROOM

The experimental classroom is one of two large rooms in

an isolated structure eighty-two feet from the main administration building (Figure 1).

INSTRUCTIONAL MATERIALS

So that students remain on the academic task rather than off task, it was important that learning fit each girl's needs rather than the girl fit the program of learning. Therefore, it was necessary to provide a flexible curriculum that could be modified for each student.

The Plus Four Reading Booster was used by all students. The Plus Four Reading program is a tightly structured program employing learning procedures, materials and devices designed to equip children with the basic skills needed to read and spell independently.

The program is compiled of sequential word perception and comprehension skills to be taught and learned in a much shorter period of time than primary and middle grades usually are given to learn the broader and more comprehensive learning programs of regular classrooms.

Plus Four focuses attention more persistently and directly upon sound-symbol or phoneme-grapheme. It also provides for a systematic analysis of individual reading disabilities and a detailed procedure for recording progress. (Kottmeyer, 1972).

The Spectrum Mathematics Series was chosen because there is little or no reading necessary in order to gain

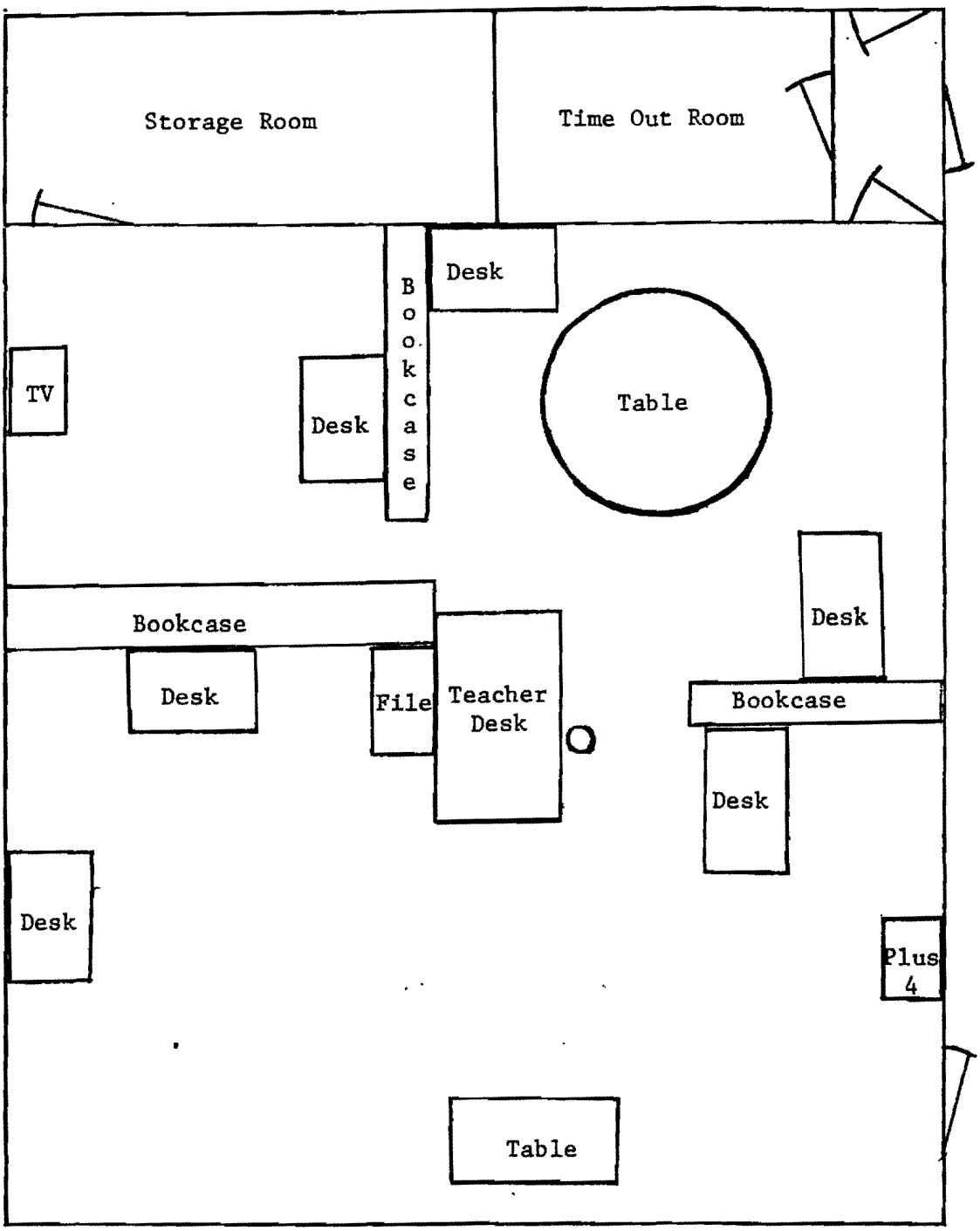

Figure 1. Physical layout of classroom and unlocked time out room.

mathematic skills. There is a minimal lack of reading frustration for the non reader. The series contains a pre-test, instructional materials, symbol exercises and story problems (not utilized) and a test.

Each pupil was given an initial evaluation test of problems from the series. The criteria for mastery was 95% in each category represented. The pages were removed from the workbook and mimeographed, then a new sheet was given daily to each girl.

Troubleshooter, a program in basic English skills was utilized. Troubleshooter is meant for the students who have different abilities and levels of achievement. Students began with the sounds of letters, developed word attack skills and built vocabulary. Sentence and paragraph analysis and language skills expected outside the classroom were taught (Benner, 1969).

Social Study assignments were taken from the daily newspaper, My Weekly Reader (Zerox, 1973), Scope and Search (Scholastic Magazines, 1973).

After administering the Durrell Informal Spelling Inventory, each girl was given ten selected words daily to put into sentences, to be defined and to be tested. This section was also used for strengthening handwriting and dictionary skills. The daily word lists of Edmonds School District Number 15 of Lynwood, Washington was used.

TEACHER BACKGROUND

The teacher involved in this study holds a B.S. degree in Speech and Hearing Therapy and is completing a Masters program in Extreme Learning Problems with an emphasis on behavior disorders. She has taught seven years in inner city schools in several states, concentrating on children with speech, language and behavior problems. She also has three years experience as a classroom teacher in a residential treatment center for girls.

DATA COLLECTION

A major emphasis was placed upon recording on task academic, as well as classroom behavior. The recording was necessary for research purposes as well as for providing feedback to the teacher regarding the effectiveness of intervention.

In order to find the value of intervention procedures, a 20 minutes video tape was taken before the token economy was implemented. Figure 2 shows the on academic task percent before the token program. Figure 2 also shows the on task percent after the token economy program had been operative for 18 weeks. Video taping was not available during the experiment as a specialist from another school district donated time to the study.

As a behavior measure, in addition to the data

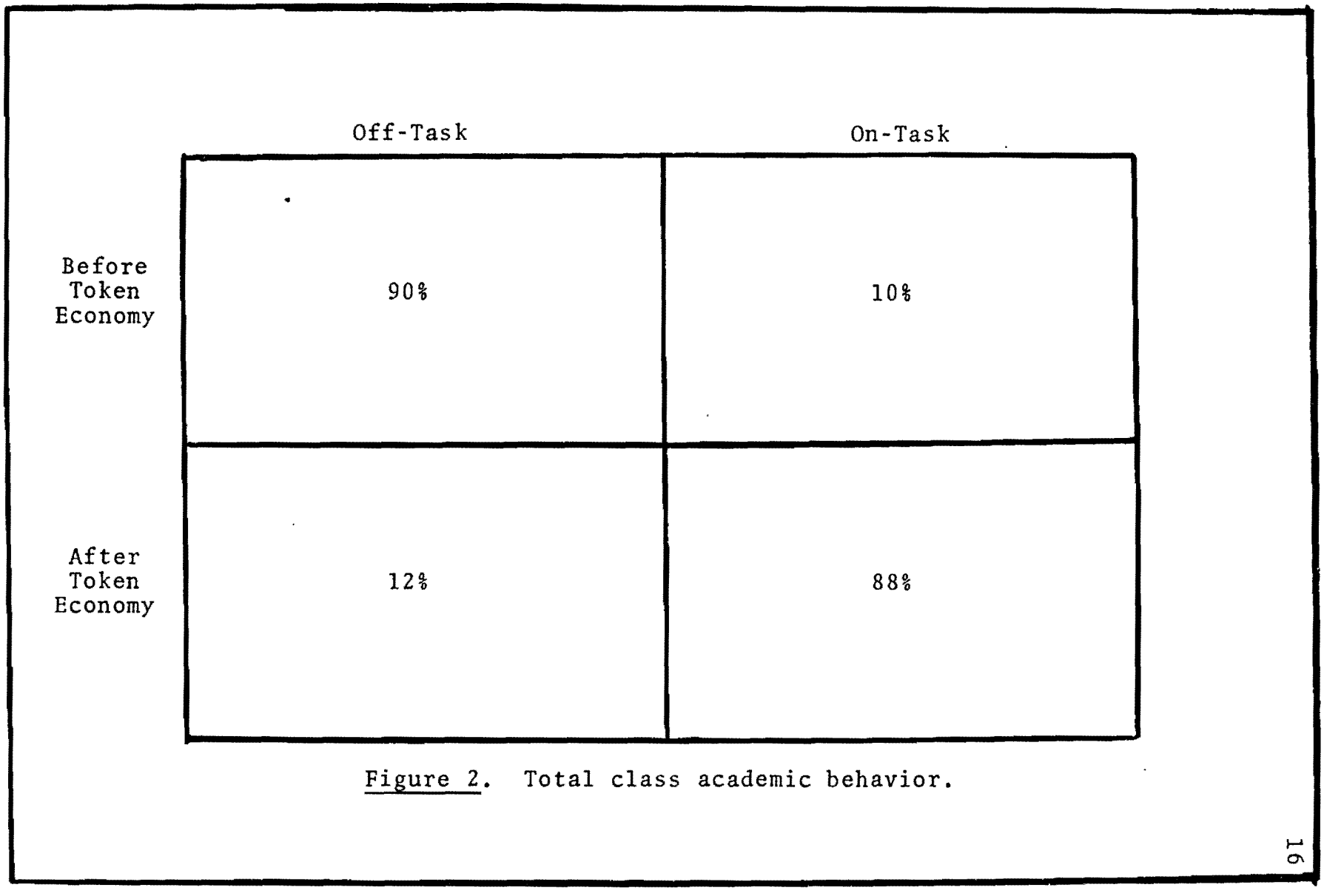

Figure 2. Total class academic behavior.

collected from the video taping, The Walker Problem Behavior Identification Checklist (Walker, 1970) was employed for the total process of behavior. Figure 3 compares each girl in the five categories listed in the profile analysis. Note: If a girl receives a total score of 21 (T-score of 60) or higher, she is classified as disturbed. If a girl receives a total score of less than 21, she is not classified as disturbed.

A comprehensive and easily utilized record system was devised for each girl (Appendix I). Individual academic studies were plotted daily by the student and teacher on completion of each task. The standardized graphs provided by the programmed materials were utilized for this purpose. The percent of work completed was recorded daily on a bar graph by the teacher. Each student had access to her own achievement and point records.

CLASSROOM PROCEDURES FOR THE TOKEN ECONOMY

A token economy was established within the experimental class to test treatment procedures that would be both efficient and effective in increasing on-task academic behavior as well as modifying classroom behavior. The reinforcer system included both social and token reinforcers (points). The girls were able to earn points for appropriate social behavior as well as correct academic performance. Each girl was told individually how to earn points as soon as she

Student		Acting-Out	Withdrawal	Distract-ability	Dist. Peer Relations	Immaturity	Total Score	T-Score
A	Before	6	14	0	4	9	34	73
	After	6	7	0	0	2	16	55
B	Before	26	0	9	3	5	43	82
	After	9	0	5	0	0	14	53
C	Before	22	4	8	8	6	48	88
	After	8	0	5	5	5	23	62
D	Before	22	0	11	3	9	45	84
	After	11	0	9	4	5	29	68
E	Before	18	4	3	1	0	25	64
	After	9	0	2	0	0	12	51
F	Before	21	0	9	11	7	48	88
	After	2	0	7	7	7	23	62

Figure 3. Walker Behavior Profile Analysis breakdown.

entered the classroom. Academic points were awarded on the correct completion of each academic task and placed on the weekly lesson plan sheet (Appendix). Behavior points were awarded on a form placed on each girl's desk. One colored pen held by the teacher was used at all times for distribution of points.

The primary goal of the experimental class was to engage each student in academic learning. Therefore, behaviors that related to academic performance were reinforced. One highly reinforced behavior was ignoring disruptive behavior of another student in the classroom. Each girl who would remain in the classroom while another was out of control or had left the room withour permission would receive one point per minute during absence.

At the onset of intervention, points had little or no reinforcing properties of their own. In order to accomplish the task of making the reinforcers valuable to the girls, the pairing of teacher attention and praise and some backup reinforcers was instituted at once. Backup reinforcers were game activities, free time, candy, listening to records and watching TV. The study reaffirmed current literature (Gevner and Graubard, 1974; Walker and Buckley, 1974) that a token has no worth without the backup reinforcer.

The basic reinforcer system in effect throughout the 17 weeks of the study included a specific set of points for specific academic accomplishments and a more general set of

points for appropriate in-seat classroom behavior. An initial backup reinforcer was a trip for lunch at a location of the girl's choosing, earned with 500 points which usually took the student six days to accumulate. A weekly movie with concession was also available to the students as a backup reinforcer.

A banking system initiated two weeks into the program contained a checking account with personalized checks and a savings account book in which points were added or subtracted accordingly. The banking was done for the most part by the individual students with assistance from the teacher during appointed banking times. Each purchase was made by check.

To determine the effectiveness of intervention, seven evaluations were made during the 17-week study. An initial preliminary evaluation after four weeks coupled with a complete six-week evaluation showed that the girls were not working to 70 percent academic criteria. The six-week classroom on-task performance averaged 51 percent. After reviewing all variables available to the teacher, a program of increased reinforcement was implemented. This reinforcement schedule to improve academic progress was accomplished through successive stages of increased reinforcement.

Following the six-week evaluation, each girl was awarded 200 bonus points--in addition to the basic reinforcer system--if she accomplished five consecutive days of

70 percent work completion. At the end of this seventh week, there was no significant improvement in academic performance. During the eighth consecutive week, the bonus points were increased to 300, and a slight increase was noted.

In the ninth week, two interventions were added. Double bonus points were awarded for every individual day of 70 percent academic achievement, and a Friday afternoon auction was held. And for the first time the average classroom academic on-task achievement exceeded the 70 percent criteria, reaching 76.66 percent.

A fifth evaluation saw a considerable decrease in academic achievement and brought another intervention. To introduce increased motivation, the doubled bonus points remained for 70 percent work completed and a small candy bar was added for those who accomplished 100 percent of their assignments. An immediate response brought four of the six students up to 100 percent during at least one of the next five school days and the classroom average for completed academic tasks reached its highest point during the study at 83.10.

Three changes were made during the twelfth week. The weekly luncheon outing was discontinued because of decreasing student interest, and the auction was dropped due to decreasing budget. During a classroom meeting about these eliminated backup reinforcers, the girls asked that a beauty

parlor be instituted on Friday afternoons. Individual bonus "prices" were established for a wash, hair cut, set, manicure and facial with makeup. The average classroom academic accomplishment dropped that week (12th week) below 60 percent from the previous week's all-time high and fluctuated around 50 percent for the remaining five weeks. No further changes in classroom procedures were made during the last five weeks.

Although focus has mainly been on the monetary-valued reinforcers, social reinforcers were integrated heavily into the program. In addition to positive verbal pairing with points, routine classroom activities such as helping the teacher, captain of games, reading with a friend and playing teacher are examples of some of the social reinforcers used within the program.

TIME OUT

Even the best planned classrooms for children with behavioral problems experience times when a child becomes obstreperous. At that time it may be necessary to physically restrain a child. An effective technique for decreasing out of control behavior is to provide a time out room. Time out was defined as removing a child from a situation in which she was unable to earn reinforcers. The girl was placed in a small, unlocked room next to the classroom until the deviant behavior subsided and she decided she was able to return to the classroom setting. If the girl was unable

to be contained in the unlocked room, the principal was called and the girl was removed to a locked room adjoining the principal's office. Upon returning from the Time Out Room, if the girl began her studies she was reinforced accordingly.

CHAPTER IV

CASE STUDIES

STUDENT "A"

Student A is a very tall, thin fifteen-year-old girl. As a Ward of the Court, she was placed in residential care partly due to a refusal to attend school. She is a very quiet, introverted and depressed child. She often became angry at teachers for expecting too much of her, yet tested to average intellectual functioning. Rather than become troublesome, she stayed home with her mother for two years, attending school only to satisfy her case worker.

Student A arrived ten weeks into the token economy program after it was well established. She seemed frightened at first, but the structure of the program appeared to give her a new found independence.

For seven of the 11 weeks, she was in the study, Student A was consistently above the 70 percent academic criteria. She obtained 100 percent of her daily work the majority of the time until the last three weeks of school when her average went below criteria due to negative home situations and illness.

Behaviorally, Student A began in the study almost

totally non-verbal, speaking only when the situation made it absolutely necessary. Throughout the token program, with continued praise for good behavior and academic achievement, she acted as if she was gaining confidences within herself. She attempted many activities in art and physical education never before endeavored. These acts of openness began the fifth week of the study and at the end of the seventeenth week, she was verbally interacting with teachers and classmates.

Academically, Student A progressed one and one-half grade levels in reading and language arts and one grade level in math as determined by curriculum placement tests (Figure 4).

STUDENT "B"

Student B is a loud, tomboy type, an eleven-year-old girl. As a Ward of the Court, she had a long record of poor social and academic adjustments in school. Stealing, lying and a seeming lack of conscience led to her multiple expulsions from previous schools. She also exhibited obstreperous behavior, severe temper tantrums, screaming, yelling and the throwing of objects. She has average intellectual capacity but her school progress has been thwarted due to her disruptive, negative and hostile behavior.

The token program impact was ineffective for several weeks. She had a gradual increase of on-task academic

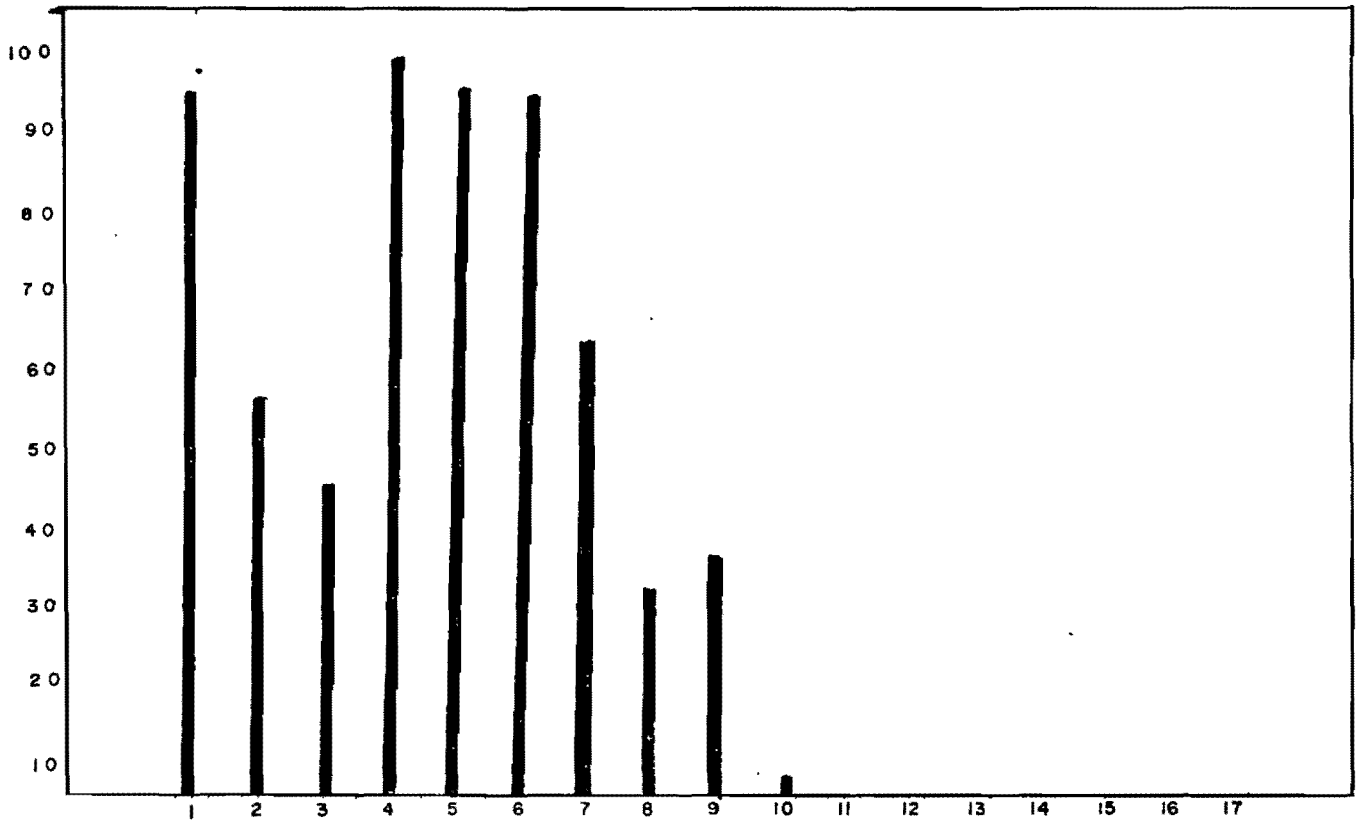

Figure 4. Average weekly percent for Student A.

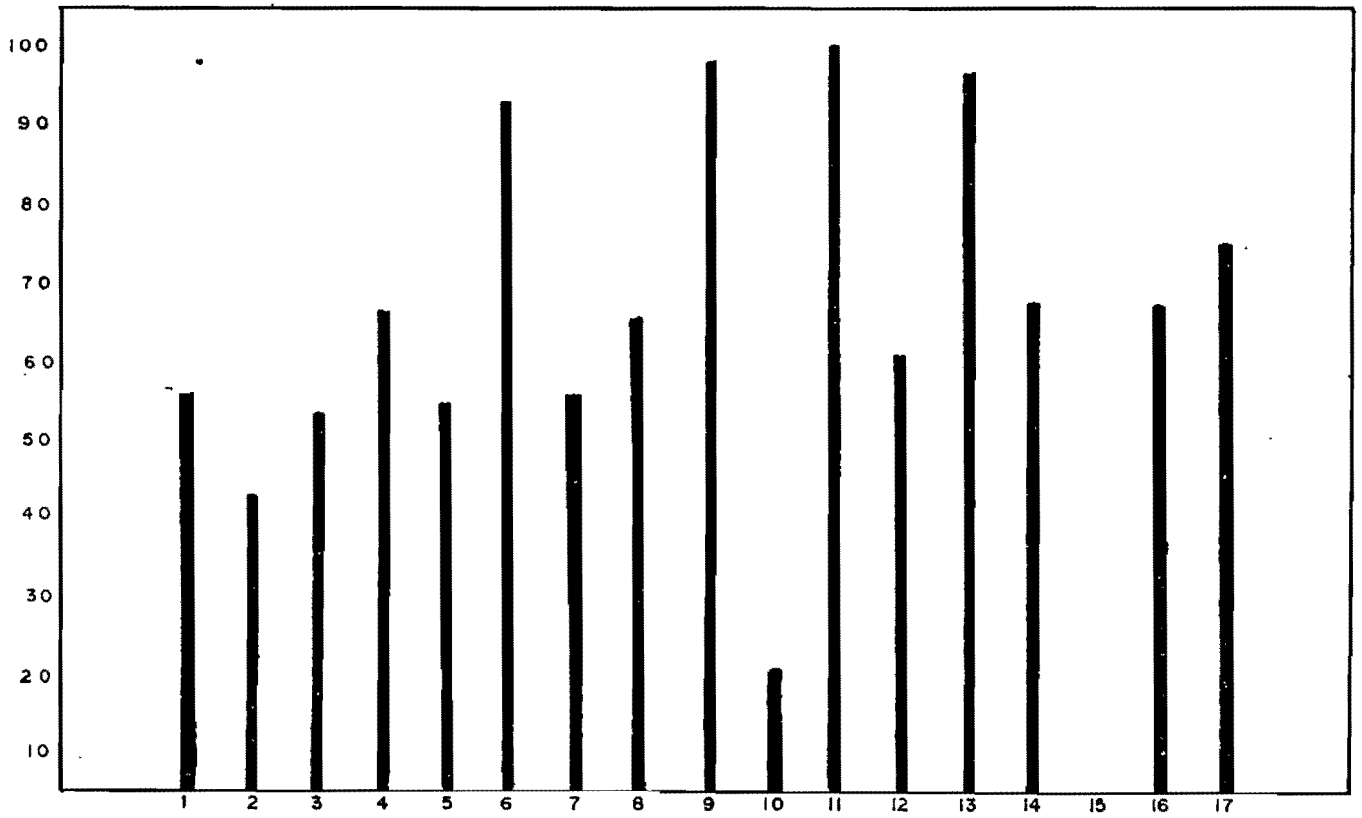

Figure 5. Average weekly percent for Student B.

and exhibits severe temper tantrums both in and out of the classroom situation.

Student C was given three tasks daily which dealt with perceptual development. The treatment team determined that this girl learn to express her anxiousness and anger in a school setting. Therefore, in a true sense on-task for Student C meant that she complete the perceptual tasks assigned. During the last four weeks of the program, she requested five spelling words, which she defined and put into sentences. Each word correctly written was reinforced with one point.

Behaviorally Student C had extreme difficulty when first coming into the classroom. She would roam about, hang out windows, disturb other students, and if requested by peers or teacher to be seated, she became angry and often left the classroom for several hours. The treatment team, school, social worker and cottage staff decided to have Student C come into the classroom 45 minutes after the other students. Upon arriving, successful entry and seating herself in the appropriate desk, she was reinforced by a small candy bar in a desk drawer. A three-week shaping program was established for appropriate classroom behaviors until the habits were established. A classroom aide and other students were used to accomplish this task. At the same time, any approximation toward the school assignment was rewarded with verbal praise and accompanied with points.

Toward the end of the last four weeks of the study, Student C was in the classroom all day acting appropriately and working at or above 70 percent criteria (Figure 6).

STUDENT "D"

Student D is a small, delicate ten-year-old girl. She is constantly in movement with an extremely short attention span. This student becomes concerned about her abilities and is easily threatened, then becomes resentful and demanding. She wants to be the center of attention and will go to many lengths to get it. She functions in a normal range of intellectual ability; but because of her deep feeling of rejection and unstable home and school situations, she has dropped three to four grades behind.

Student D had difficulty during the initial part of the token program. When she was not reinforced for an obvious inappropriate behavior, such as talking aloud or using abusive language, even though she was in her desk, she had severe temper tantrums. On several occasions the girl struck the teacher because she was not given a reinforcer. When reinforcement was awarded an overt, physical nurturing was given by the teacher.

Academically, Student D increased two and one-half grade levels in reading abilities and one and one-half grade levels in language arts. Math was steady and no significant change was noted.

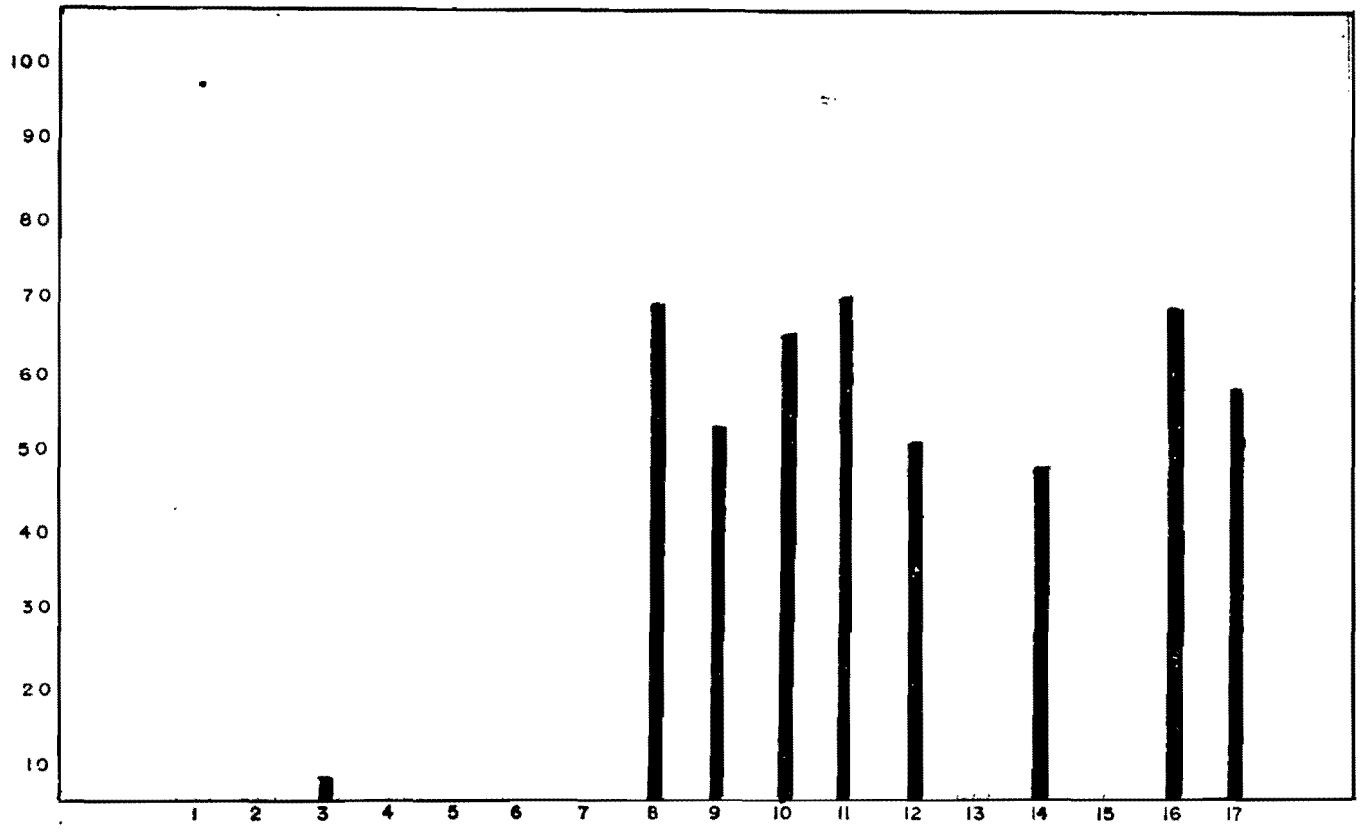

Figure 6. Average weekly percent for Student C.

Behaviorally, Student D began the study with a negative attitude. However, her competetive spirit began motivating an effort to "beat" the other girls. She was heavily reinforced for appropriate classroom behaviors and often used as a positive example in her eating habits during lunch. Her temper tantrums and acting out behavior decreased as backup reinforcers were purchased with her own points (Figure 7).

STUDENT "E"

Student E is very small for a fourteen-year-old. She was made a Ward of the Court as a result of her chronic running away from home. For example, within a four month period she ran 12 times with runs lasting from two to 20 days.

Student E entered the study seven weeks after it began. When in school she remained above 70 percent criteria during nearly half of her stay. During the eighth week she chose not to participate in academic activities and requested that no academic or behavior points be credited to her. In this period, however, she kept busy playing cards, watching television and seemed to be trying to remain in control. In a sense, she rejected the system by refusing to participate. The following weeks included running behavior plus extended stays in the county jail. When she returned to school, she maintained her previously high achievement level. As she

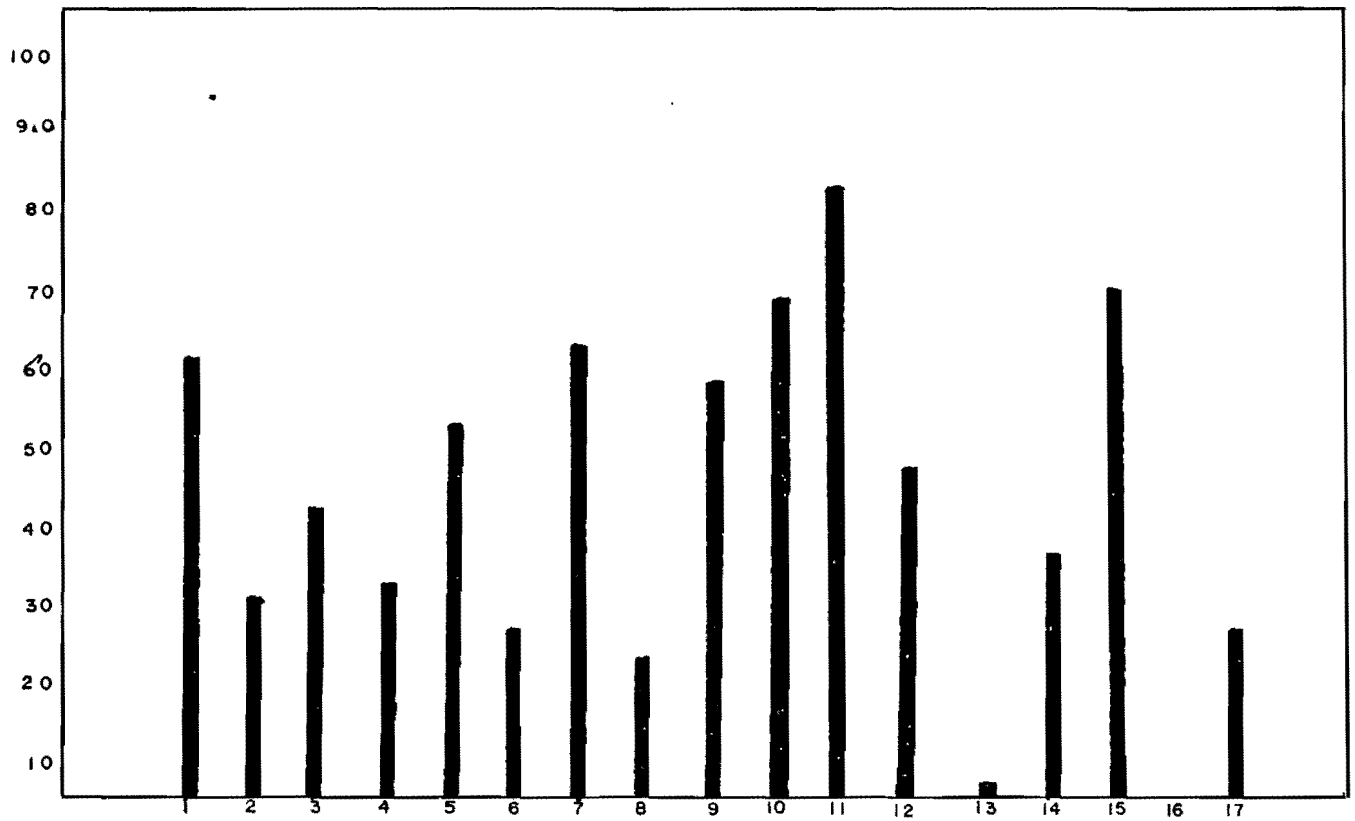

Figure 7. Average weekly percent for Student D.

progressed academically, she realized she had a better grasp of the studies than other girls. In the last three weeks she asked to use free time tutoring several other girls, willing to spend her points for the privilege. No intelligence test was made of the student during the program. She progressed two grade levels in reading, language arts and math.

Behaviorally, Student E seemed to relate to the consistency of the token economy and enjoyed saving her points. The pleasure of having a great quantity of points appeared to be greater reinforcement than spending the points. In the early part she established a pattern of setting up verbal conflicts with other girls thus throwing the classroom out of control, and then displayed limited ability to understand the consequences of her actions. She screamed loudly with excessive abusive language and refused to respond to spoken instruction. As her stay in the classroom lengthened, her outbursts became less frequent and her running away diminished (Figure 8).

STUDENT "F"

Student F is a tall, thin fifteen-year-old girl that returned to the agency after an eight month home trial. She is limited in her ability to see the cause and effect of her actions and becomes confused when suddenly involved in a situation she does not feel personally responsible for. Extreme anger and acting out behavior is often shown adults

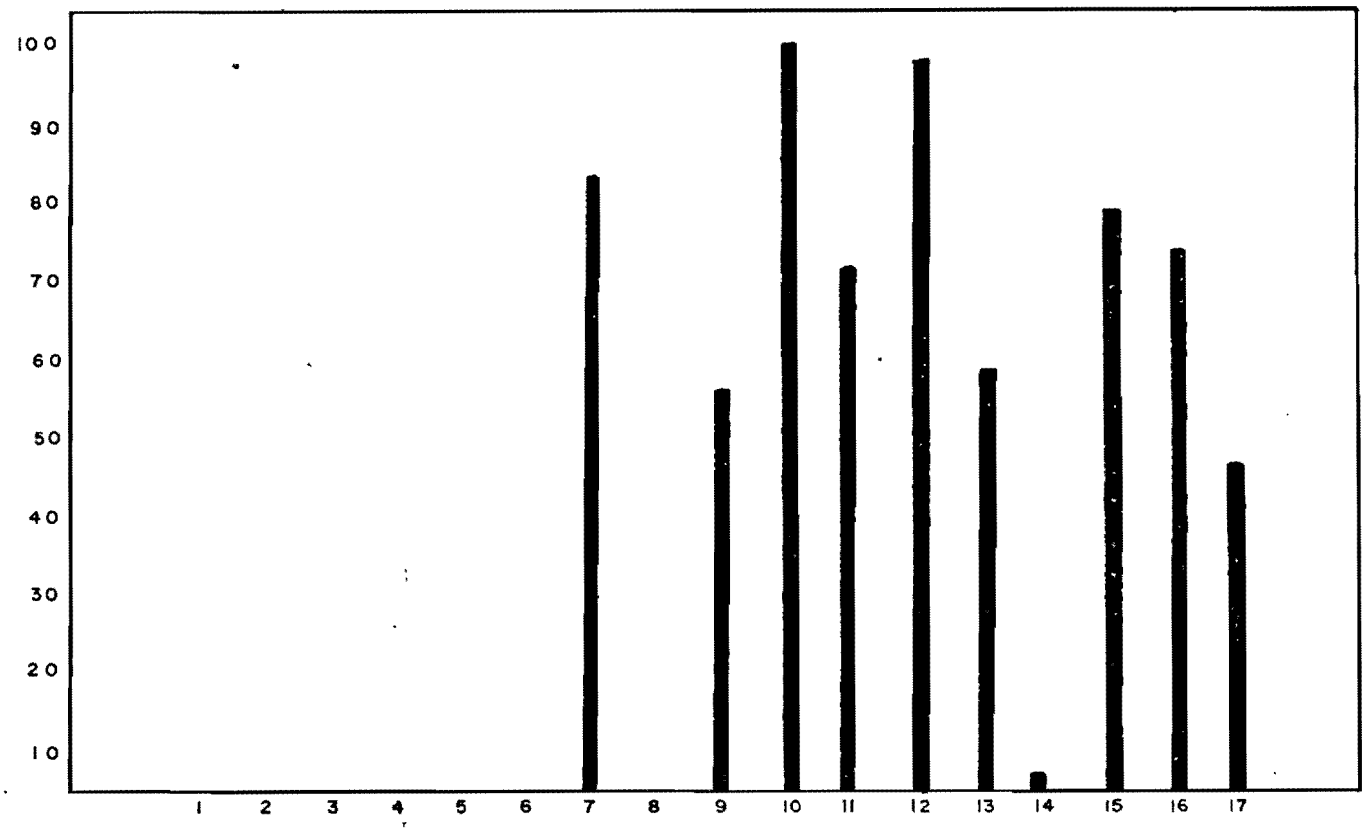

Figure 8. Average weekly percent for Student E.

who impose limits. She often uses prank-like behavior, such as making funny faces, noises and body movements, to manipulate a situation.

With normal intellectual functioning, Student F has shown very little academic progress, even though she received 12 lesson plan changes and the opportunity to become a teacher aide. Due to extreme depression and a negative variable from the home, Student F was very hard to motivate.

The treatment team experimented with four different treatment plans, all having limited success. A concensus was held that until the home situation improved that Student F remain in school on a half-day basis (Figure 9).

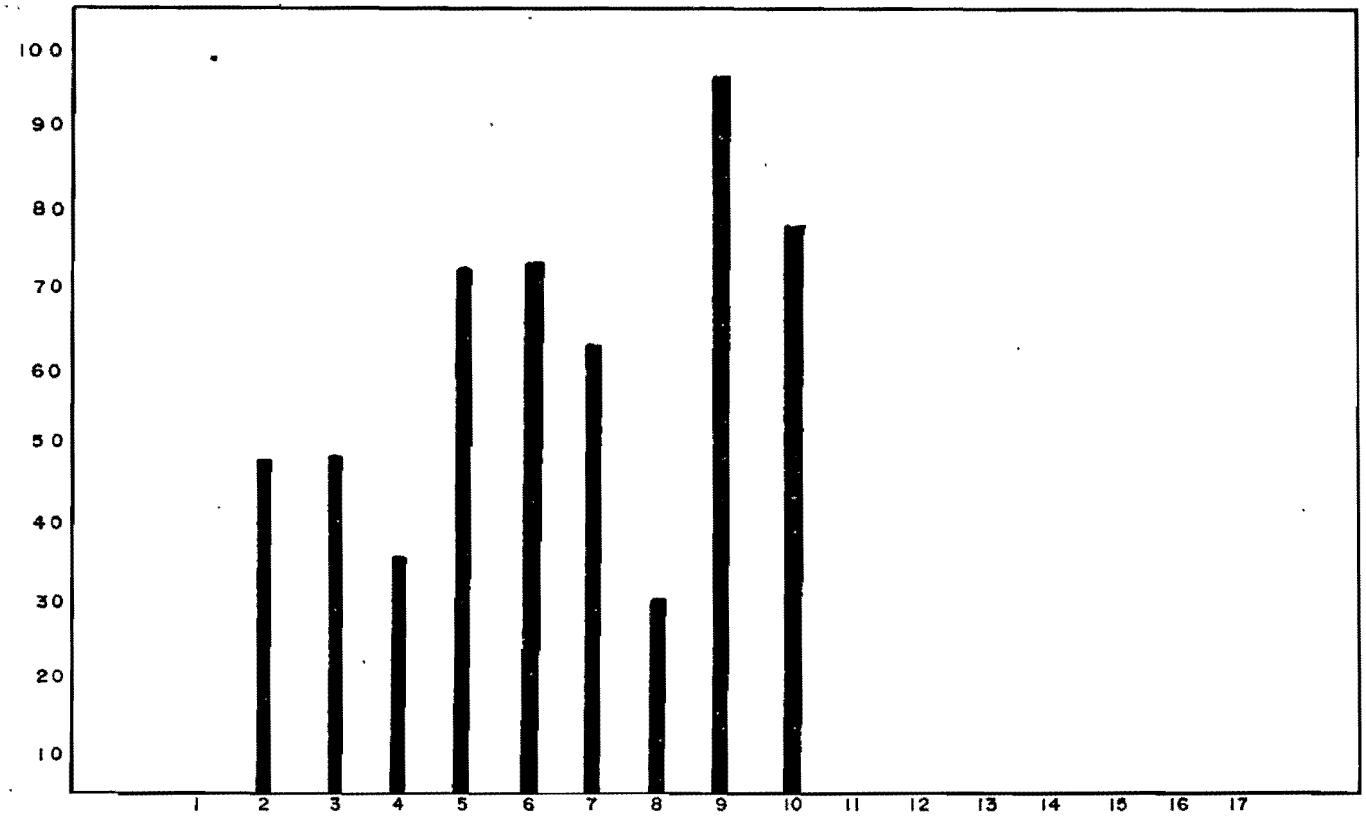

Figure 9. Average weekly percent for Student F.

CHAPTER V

RESULTS AND DISCUSSION

RESULTS

The purpose of this study was to determine if a token economy would increase academic tasks through the use of this system.

The first question was, will the students meet and maintain a level of 70 percent criteria following intervention? The second question was, will the students meet and maintain the level of 80 percent for appropriate behaviors following intervention?

Analysis of academic data found that the students did meet the 70 percent criteria level for the number of academic tasks completed, but the students were not able to maintain this level over an extended period. For example, the average classroom percent of weeks meeting or exceeding 70 percent criteria was 31 percent. The percent of days meeting or exceeding 70 percent was 51 percent. Specific weekly and daily achievement levels for each student is displayed on Figure 10.

Pre and post video taping showed a great increase for the total class. Before intervention the class was on task

	% of weeks meeting or exceeding 70% criteria	% of days meeting or exceeding 70% criteria	% of days meeting 100% criteria
Student A	40%	62%	42%
Student B	23.5%	56.5%	36%
Student C	20%	46%	32%
Student D	18%	34%	16.5%
Student E	60%	66%	48%
Student F	40%	46%	22%
Classroom Average	31%	51%	31.5%

Figure. 10. Specific weekly and daily achievement levels for each student.

10 percent, after intervention the class met and maintained the level of 80 percent for appropriate behaviors (Figure 2).

DISCUSSION

Three main factors had an overall impact on the experimental study. First, the expectation level may have been set too high. Secondly, the initial backup reinforcers were not effective. Thirdly, regulation of total environment influences was not possible.

The experimental classroom was set up because there was a need for academic achievement and behavior control. Research has shown the efficacy of a token economy method (Krug, 1972). However, there were no studies available on severely disturbed adolescent girls in a residential setting to use as a guideline. Therefore, arbitrarily, a 70 percent task completion level criteria was chosen. Data reveals that a 50 percent performance level would have been more appropriate for the class as the mean for the students was 12 of the 17 weeks at or above the 50 percent level (Figure 11).

With greater cooperation from the agency, a larger measure of success might have been achieved with the token economy program approach to on-task academic performance and behavior control. The following suggestions are recommendations that might be used to increase the effectiveness of

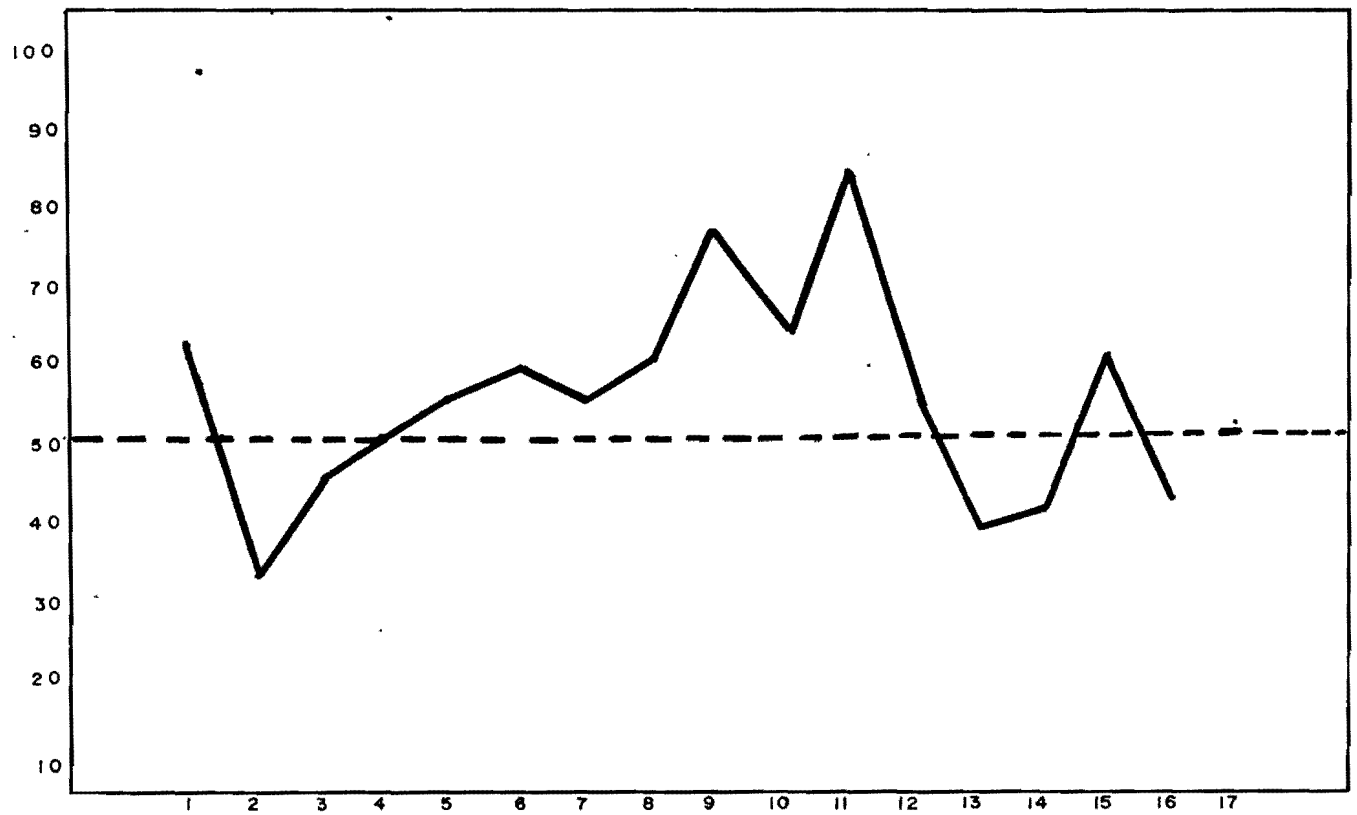

Figure 11. Class average weekly percent illustrating 50 percent increase.

this method in future residential settings:

1) In specific reference to a behavior modification program; it appears to be imperative that the entire agency (treatment team, administration, residential staff and school) must support such an operational pattern in order for it to be maximally effective. No behavior program can work to its fullest potential in a residential setting if only one small segment of the entire program is functioning according to those principles.

2) The agency must provide the staff with appropriate resource personnel. Such a staffing pattern might include a professional behavior consultant for technique refinement. Additionally, it is advisable that such a behavior program be undertaken only after a secure and easily accessible time-out room is available to the teacher.

3) Nutrient incentives are of great importance. These can never by underestimated throughout a program in residential treatment.

4) Sufficient time for individual measuring and data collecting is important for continuous feedback. Each classroom should have:

A) an aide to perform these tasks, leaving the teacher free to give individual attention to students;

B) an aide to assist the teacher with out of control children;

C) an aide to help record and measure data.

5) Lead time for this study was reduced to a minimum prior to implementation as energies were spent selling the behavior program to staff members who felt the program was going to make each girl into a "manipulated robot." Therefore, a workshop on behavior management might be set up by a resource person to assist in the education of this philosophy.

Results in this experiment indicated marked improvement in academic and behavioral performance during the token economy program. The extent of the changes found and their consistency within the study leads to the conclusion that academic and behavioral improvement were significantly effected within the token economy program which was implemented within the traditional approach of a residential treatment center.

CHAPTER VI

SUMMARY

The purpose of this study was to increase the level of completed academic tasks through the use of a token economy system with female adolescents in an institutional classroom setting.

A 70 percent anticipated completion of academic tasks was the primary aim. Secondly, would there be an 80 percent increase of appropriate behaviors following intervention?

Six emotionally disturbed girls living in an adolescent treatment center, subjects of this study, were unable to adjust to the socially acceptable norms of behavior. Each of these girls was described as too disturbed to learn.

Utilizing the principles of behavioral change the experimental classroom was set up to assist each girl in increasing her on academic task behavior and/or to enable her to work and learn independently in the classroom. The environment was arranged in such a way that when a girl interacted with it, learning was maximized.

Results found the average classroom percent of weeks meeting or exceeding 70 percent was 31 percent. The days meeting 70 percent criteria was 51 percent. The class average of on academic task rose from 10 percent to 88 percent.

APPENDIX I

LESSON PLAN SHEET

	Subject	Task	Score	Points Earned	Comments	No. Tasks
Date:						
	Math					
	Plus 4					
	Spelling					
	English					
	Reading					
	S/S					
Date:						
	Subject					
	Math					
	Plus 4					
	Spelling					
	English					
	Reading					
	S/S					
Date:						
	Subject					
	Math					
	Plus 4					
	Spelling					
	English					
	Reading					
	S/S					
Date:						
	Subject					
	Math					
	Plus 4					
	Spelling					
	English					
	Reading					
	S/S					
Date:						
	Subject					
	Math					
	Plus 4					
	Spelling					
	English					
	Reading					
	S/S					

APPENDIX II

POINT DISTRIBUTION

Volunteer Classes		30 points	bonus available
Music		20 points	for all these
Exercises		17 points	activities
P.E.		20 points	

Spending

Movies	one reel	10 points
	two reels	20 points
Popcorn		15 points
Candy		fixed prices
Free time	1 minute	1 point
Television		1 point = 1 minute
Lunch		free

Bonus points are given at all activities mentioned above for

1. Good behavior
2. Good language
3. Good relationships between students

Tasks for A.M.

Coming into room and taking seat	1 point
Math	1 problem - 1 point
	2 problems - 1 point
Plus 4	each task has set points
Spelling Words Test	1 correct word - 1 point
Spelling Sentences	1 correct sentence - 1 point
Spelling Definitions	1 correct definition - 1 point
	possible 3 points
Surprise Activity (in seat only)	1 to 10 points
RECESS	each 5 min. - 1 point
	possible 3 points
Social Studies	each task has set points
Slim & Trim Exercises	17 exercises - 34 points
Lunch Recess	Bonus points avilable each
	5 min. 1 point
	possible - 6 points

Recess points are used for weekly swimming privileges.

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