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AUTHOR Meredith, William V.; Banks, Thomas M.  
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## ABSTRACT

Evaluation of the 1960-70 program of a reading center originally begun in 1966 with ESEA/Title I funds was conducted for three purposes: (1) to determine the extent to which participation in the remedial and developmental program resulted in improved reading skills, (2) to discover trends in achievement gain as related to differing lengths of treatment, and (3) to explore the relationship between personality characteristics and length of time in the center. The Gates-MacGinitie Reading Tests and a Behavior Inventory Rating were administered to 171 students in grade 3 who were involved in reading center activities. Conclusions were that (1) the children made significant achievement gains as a result of participation in reading center activities, (2) the children who needed the most help spent the longest time in the center, and (3) the children with more desirable personality traits were likely to remain at the center longer than children with less desirable traits. It was recommended that the relationship of length of time at the center and degree of achievement gain should be studied further, concentrating on determining optimal time allocations for various types of pupils. Tables and the Behavior Inventory Rating Sheet are included. (MS)

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**A STUDY OF THE READING CENTER PROGRAM  
FOR THE 1969-70 SCHOOL YEAR**

**(A Title I Project)**

**U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE  
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**The School Board of Broward County, Florida**

**Benjamin C. Willis, Superintendent of Schools**

**Research Department**

**Report No. 36**

**September 1970**

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Submitted to

The School Board of Broward County, Florida  
Benjamin C. Willis, Superintendent

By the

Research Department

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## FOREWORD

The Reading Center with its five sub-centers was constructed, financed and staffed in 1966 with Title I funds to offer clinical services for improving reading and language skills to children from disadvantaged schools.

The staff of the Center is composed of a supervisor, head teacher, clinician, liaison person with non-public schools and a graphics specialist. A nurse, psychologist, researcher, twenty-three reading specialists and fifteen teacher aides also serve the six centers.

There are several purposes for evaluating the 1969-70 Reading Center program: (1) to determine if last year's remedial and developmental program resulted in improving reading skills; (2) to obtain information about trends in gain scores associated with differing lengths of treatment times at the Center; and (3) to explore the Reading Center's ability to bring about positive changes in attitudes and conduct as well as academic proficiency.

This study was made by William V. Meredith and Thomas M. Banks of the Research Department. Eve Thode and Kay Wells prepared the manuscript.

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A STUDY OF THE READING CENTER PROGRAM  
FOR THE 1969-70 SCHOOL YEAR

Introduction

Rather than have students bused for long distances to the Reading Center during the 1969-70 school year, five sub-centers were located in strategic economic and geographic areas throughout the county. Each sub-center offered the same developmental and remedial assistance as the central Reading Center. Five hundred and eighty (580) students in their second and third years of school were enrolled in the Reading Center program and attended for one and one-half hours each school day. At the main or central Center two teams of teachers, each composed of three or four teachers and an aide, worked with each student in an individualized learning situation. The first team prescribed intensive work to improve skills in word recognition and comprehension. The second team provided language experience, which involved vocabulary extension, creative writing, oral language development, listening activities, academic games for reinforcement of skills and independent study skills. Two teachers and an aide served each of the five sub-centers. These teachers provided the same services as each of the teams at the main Center.

Purposes

There were several purposes for evaluating the 1969-70 Reading Center program. The first purpose of this study was concerned with whether or not participation in the remedial and developmental program resulted in improved reading skills. A second purpose was to obtain information about trends in gain scores associated with differing lengths of treatment time at the Center. There is a need for intelligent decision-making as to how long it takes

different students to achieve an optimal level. A third purpose of the study was to explore the Reading Center's ability to bring about positive changes in attitudes and conduct as well as in academic proficiencies.

### Procedures

Three tests, measuring skills in both reading vocabulary and comprehension, were administered to the first group of students to be enrolled in the Reading Center's remedial reading program. As students were screened and admitted into the program in September and October of 1969, they were administered the Gates-MacGinitie Reading Tests, Primary B, Form 1 as a pretest. On completion of the remedial program, after varying amounts of needed treatment, another form of the same test was administered as a posttest (Form 2). Two months after being dismissed from the Center and returned to his regular classroom, each student was readministered Form 1 as a retention test. A Behavior Rating Inventory was also completed on each student shortly after his dismissal from the Center. Complete data were collected on 171 students, all in their third year of school.

### Results of the Evaluation

The results of the evaluation are presented in separate sections, each reporting the findings related to the three purposes of the study.

#### GAINS

Rationale. The purpose of this section was simply evaluative. Objective evidence was brought to bear upon the question of whether or not participation in the Reading Center program resulted in improving reading skills.



Findings. The mean (average) scores obtained by the 171 students in the Center on the three administrations of the evaluative tests are summarized in Tables 1 and 2.

TABLE 1  
MEAN SCORES FOR TOTAL GROUP  
n = 171

Mean IQ	Vocabulary			Comprehension		
	Pretest	Posttest	Retention Test	Pretest	Posttest	Retention Test
	V1	V2	V3	C1	C2	C3
94.68	2.35	3.39	3.43	2.13	3.39	3.34

Inspection of Table 1 shows that the mean (average) scores of the Center students in this study improved after the first testing. However, these means did not change much between the second and third testings. Table 2 shows these trends in the form of mean difference or gain scores. Before attending to Table 2, however, it might be noted that the mean IQ score of the Center students is also included in Table 1. The mean score of 94.68 shows that the students in the Center tended to score below average on the IQ test.

The gain or mean difference scores in Table 2 were obtained by subtracting appropriate values in Table 1. For example, the score of 1.04 in the first column (V2-V1) represents the difference between mean scores on the first vocabulary test (2.35) and mean scores on the second vocabulary test (3.39). The heading V2-V1 indicates that mean scores on the first vocabulary test were

subtracted from mean scores on the second vocabulary test. This difference represents average gain between the pre- and posttests.

TABLE 2  
GAIN SCORES AND CONFIDENCE LIMITS

Tests:	Vocabulary			Comprehension		
	V2-V1	V3-V1	V3-V2	C2-C1	C3-C1	C3-C2
Mean Difference	1.04*	1.08*	.04	1.26*	1.21*	-.05
Confidence Limit	.91	.98	NA	1.11	1.07	NA

\*Difference significant at .001 level.  
NA = Not applicable.

The gain scores in each column were tested for statistical significance by computing  $t$  values for correlated observations. Lower bounds for confidence limits were established at the .05 level, using a one-tailed test.

All differences between first and second, and first and third, testings were highly significant in a statistical sense. Average gains in those comparisons all exceeded one year in terms of grade equivalents.

However, factors such as normal maturation and test familiarity would cause us to expect scores to increase somewhat between two administrations of these tests. The amount of gain due to these factors should be deducted from the gain scores because this growth would have occurred even if the students had not been in the Center. The tests of significance should refer only to the benefits received from the Center's program. Unfortunately there is no easy way to precisely estimate the amount of gain which these children

would have made outside the program. It is for this reason that confidence limits in Table 2 have been included. These limits indicate how large the amount of gain due to factors other than the program would need to be before it could no longer be said that the program had statistically significant positive benefits. In the first column the figure .91 indicates that gains not due to the program would have to reach about nine-tenths of a grade-equivalent year (nine months) before gains due solely to the effects of the reading program would not be significant. A positive gain score of .14 or greater would be statistically significant.

The values of the confidence limits are encouraging. The expected yearly increment in grade equivalent scores for children referred to the Center is probably less than that of children without reading problems. In terms of actual school months, the interval between the first and second tests averaged about three months. The interval between the first and third tests averaged about five school months. It is reasonable to assume that these pupils would normally gain no more than .3 and .5 years, respectively, between these two time intervals. The statistically significant gain scores in Table 2 would, however, remain significant after deduction of these estimates of normal growth. In the case of the comprehension tests, deducting estimates of growth due to factors other than the Reading Center, as high as one full grade-equivalent year, would still leave statistically significant remainders due to the Center's remedial program.

The best way to control for the effects of extraneous factors in assessing the benefits of a program such as this is to employ a control group. This year no control group was available. However, a follow-up evaluation involving children who participated in the program during the 1968-69 school year has recently been conducted. That study included a control group. The results of the follow-up study showed that students in the experimental or

Reading Center group scored significantly higher than the control group both immediately after the treatment and one year later.

The follow-up study strengthens the evidence that the program produces positive and lasting results. In light of this, why do scores not change much between the post and retention testings? One possible answer is that the performance of these students levels off or even declines in regular classrooms. Another is that scores on the posttest may be spuriously inflated. For example, the pupils in the Center may perform drills and exercises which not only increase their reading skills, but may also familiarize them with the mechanics of responding to some sections of the criterion tests. The absence of such drills over a two-month period may then be expected to affect performance on the retention test. The important question, however, is whether or not the program produces lasting benefits. Our follow-up study provides the best evidence in regard to this question.

Conclusions. The weight of the objective evidence concerning the value of this program has been cumulating for several years. This year's results indicate the continued success of the Reading Center program.

The students made significant progress while enrolled in the remedial program. The gains made seem to be retained. However, measurably significant growth did not continue after students had been dismissed from the Center and returned to regular classrooms. In order to bring about continued or additional growth, it may be necessary to have transitional teachers in the schools to work with former Center students. These transitional teachers could coordinate and supervise the prescribed remedial instruction for each individual student.

## LENGTH OF TIME IN THE CENTER

Rationale. Given a successful program, it is logical to ask how can its benefits be distributed to the best advantage of county pupils? The number of students who can be served by the program is partially determined by how long participants stay in the program. Constraints of facilities and personnel establish practical limits. Within these limits a wide variety of alternative admission and withdrawal policies is possible. The question of "how many for how long?" can be profitably attacked by simple research procedures. The principal recommendation of this study will be that the research design for the 1970-71 evaluation be tailored to this end.

This year's data have been utilized to begin a probe of the question of "how many for how long?". Determining trends in gain scores associated with differing lengths of treatment time is required for intelligent decision-making in this area. Ideally, the peak level of attainable gain scores and how long it would take to achieve this optimal level should be found. Practically, research designs can be implemented which may enable us to give useful estimates of these ideal limits of time and gain. In the absence of an experimental design, last year's data can only provide insights into existing policies. Next year's study can provide information concerning the efficacy of alternative policies.

Procedures and Findings. Students were classified into four groups on the basis of the number of hours they received treatment at the Center. Each time interval consisted of 32 hours, which is roughly equivalent to participation for one school month. Test data for these groups are summarized in Table 3.

TABLE 3  
MEAN SCORES BY TIME INTERVALS

Group	Time in Center	N	IQ	Vocabulary			Comprehension		
				Pre-test	Post-test	Retention Test	Pre-test	Post-test	Retention Test
1	36-67 hrs.	25	98.92	2.79	3.48	3.80	2.33	3.36	3.82
2	68-99 hrs.	48	96.06	2.80	3.50	3.67	2.37	3.49	3.51
3	100-131 hrs.	57	93.63	2.10	3.37	3.33	2.07	3.32	3.16
4	132-163 hrs.	41	91.95	1.92	3.22	3.07	1.82	3.38	3.11
	Total	171							

Inspection of Table 3 shows that definite trends emerge when time intervals are used to classify these data. With few exceptions mean scores on all tests decline as length of time in the Center increases. Children who were smarter and may have needed less help in the first place tended to reach an acceptable level of proficiency faster than their less able peers. Thus the IQ and pretest scores give a good indication that the Center is implementing reasonable policies of releasing pupils. The data in Table 3 may indicate that by serving fewer low IQ pupils the Center could increase the total number of children served. This would require a value judgment to the effect that it is better to secure the greatest good for the greatest number than to provide assistance to those who need the most help. The answers to such questions of value lie beyond the bounds of research.

The data in Table 3 cannot be used to secure reliable information about whether or not the present allotment of time to children could be significantly improved. It does appear that IQ scores seem to be the best predictor of how long students presently remain in the Center. However, it is important to know the points in time when the growth rates for the higher and lower IQ groups begin to slow down. The 1970-71 evaluation should begin to cumulate objective evidence about this problem.

Table 4 summarizes gain scores made by the four groups. It was constructed from Table 3 exactly as Table 2 was constructed from Table 1.

TABLE 4  
GAIN SCORES BY TIME INTERVALS

Group	Time in Center	Vocabulary			Comprehension		
		V2-V1	V3-V1	V3-V2	C2-C1	C3-C1	C3-C2
1	36-67 hrs.	.69	1.01	.32	1.03	1.49	.46
2	68-99 hrs.	.70	.87	.17	1.12	1.14	.02
3	100-131 hrs.	1.27	1.23	-.04	1.25	1.09	-.16
4	132-163 hrs.	1.30	1.15	-.15	1.56	1.29	-.27

Table 4 indicates that gain scores between the first and second tests (V2-V1, C2-C1) increase with length of time in the Center. On the other hand, differences between the second and third tests (V3-V2, C3-C2) are inversely related to length of time in the Center. Children who stay in the Center longer tend to gain more while they are there and to regress two months after

they have been released. Children who stay in the Center a shorter time gain less in the Center but continue to make progress after dismissal.

Doubtless these results are partially determined by "real" factors. For example, the children in the first group had less ground to make up. Given fixed levels of proficiency to be achieved prior to dismissal, gain scores of the first group could not have been as great as those groups which had lower pretest scores.

The results are also influenced by statistical artifacts associated with gain scores. Gain scores are deceptively simple in appearance. It would seem that time, rate, and gain problems could be approached in much the same fashion as simple "time, rate, and distance" problems. Unfortunately, differences between two points on a test scale are much more complex functions than the distances between two locations on a map.

Failure to take into account factors such as the reliability of test instruments and regression effects can often lead to mistaken interpretations. Such mistakes can be very harmful if they form the basis for making decisions.

Conclusions. The problem of the relationship between length of time in the Center and gain scores has been introduced in this section. Tables 3 and 4 display changes in test performance distributed across four equal time intervals. Pretest differences in IQ and reading test scores provide insight into factors which must be taken into account in next year's study. It should be mentioned for the benefit of the technically-oriented reader that these differences in IQ and pretest scores, using a one-way analysis of variance technique, were found to be statistically significant.



The results of next year's evaluation should provide better evidence regarding the optimum utilization of the resources of this project.

#### BEHAVIOR RATING SCORES

Rationale. The analyses in this section were designed to explore the relationships of factors other than initial achievement and aptitude to success in the Center. Ultimately, it would be desirable to know if being in the Center is associated with positive changes in attitudes and conduct as well as with increased academic proficiency. Measures of these noncognitive areas were not obtained for this study until after pupils were dismissed from the Center. Thus, it was impossible to consider changes in conduct due to being in the Center. It was also impossible to use noncognitive information to predict success in the Center. It was possible, however, to examine relationships between length of time in the Center and personality characteristics. There was an interest in seeing if noncognitive traits which influenced the length of the pupils' stay in the Center could be identified.

Procedures and Findings. A seven-point rating scale, originally developed for use in Head Start evaluations and often used by the Research Department, was utilized. Classroom teachers rate the items on the scale in terms of how closely each item describes the behavior of a particular student. Scores range from "not at all like" to "exactly like" the child. (A complete description of this scale is available upon request.) The full scale consists of twenty-three items (see Appendix A). Only twelve of these items, which are listed below, were used in this study.

Personality Characteristic

Not at Exactly  
All Like.....to.....Like

Apathetic, Withdrawn

- |                                                                                          |                           |
|------------------------------------------------------------------------------------------|---------------------------|
| 1. Is constricted, inhibited, or timid; needs to be urged before engaging in activities. | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| 2. Is lethargic or apathetic; has little energy or drive.                                | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| 3. Often will not engage in activities unless strongly encouraged.                       | 1 - 2 - 3 - 4 - 5 - 6 - 7 |

Aggressive, Hostile

- |                                                                                                                                                                                    |                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| 4. Emotional response is customarily overstrong; over-responds to usual classroom problems, frustrations, and difficulties.                                                        | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| 5. Is often quarrelsome with classmates for minor reasons.                                                                                                                         | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| 6. Insists on maintaining his rights, e.g., will not yield his place at painting or at the carpentry bench, etc.; insists on getting his turn on the slide or at group games, etc. | 1 - 2 - 3 - 4 - 5 - 6 - 7 |

Self-Reliant, Independent

- |                                                                                            |                           |
|--------------------------------------------------------------------------------------------|---------------------------|
| 7. Tries to figure out things for himself before asking adults or other children for help. | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| 8. Appears to trust in his own abilities.                                                  | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| 9. Goes about activities with a minimum of assistance from others.                         | 1 - 2 - 3 - 4 - 5 - 6 - 7 |

Gregarious, Talkative

- |                                                                           |                           |
|---------------------------------------------------------------------------|---------------------------|
| 10. Talks eagerly to adults about his own experiences and what he thinks. | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| 11. Likes to talk or socialize with teacher.                              | 1 - 2 - 3 - 4 - 5 - 6 - 7 |
| 12. Is eager to inform other children of the experiences he has had.      | 1 - 2 - 3 - 4 - 5 - 6 - 7 |

The items were classified into four groups on the basis of the results of several factor analyses of this scale. The items which are listed under these main headings tend to be more highly correlated with each other than with other items. In other words, each cluster of items appears to measure a common trait.

These scores were not obtained until after the students were dismissed from the remedial reading program. Under these circumstances it is extremely difficult to know whether to attribute differences in behavior rating scores to the effects of being in the Center for longer or shorter periods of time, or to attribute being in the Center for longer or shorter periods to the effects of personality traits. In the preceding section we assumed that the effects of the IQ scores and pretests influenced how long children remained in the Center. In order to approximate the logic of those comparisons, it was decided to use ipsative rather than normative scores for the twelve items. For the benefit of more technical readers, the ipsative scores were obtained by standardizing scores in terms of each person's mean and standard deviation. These scores were then converted to T scores to facilitate interpretation. One-way analysis of variance procedures were used to calculate tests of significance. The results of the analyses are reported in Table 5.

For the benefit of the less technical reader, ipsative scores indicate how a person does in relation to himself. Normative scores relate his performance to that of other people. (An ipsative measure reflects the sort of thing that is meant when one says, "I'm lousy at golf, but it's still my favorite sport.")

In the case of the behavior rating scores, a high item score means that the particular item is characteristic of an individual. Ipsative scores, however, do not show how a person stands in relation to others.

Because an item is characteristic of a person in relationship to his scores on other items does not mean that his score on that same item would also be high in terms of other people's scores on the item. In comparison to other children, a child's most prominent trait might be shyness and withdrawal. In terms of his own traits, independence and self-sufficiency might predominate.

Ipsative scores were used because it was felt that they would be more stable than normative scores. The effects of being in the Center were probably unlikely to result in an internal reordering of personality traits. Since these analyses were merely exploratory, the validity of these claims for the stability of ipsative scores need not be examined in great detail. The technically-sophisticated reader will note that the results of prior factor analyses have been used to try to select items which do not give disproportionate weight to any trait.

TABLE 5  
MEAN BEHAVIOR RATING SCORES

Group	Time in Center	N	Apathetic			Aggressive		
			1	2	3*	4	5*	6
1	36-67 hrs.	25	49.34	49.66	50.55	44.23	41.04	46.20
2	68-99 hrs.	48	44.58	46.76	46.53	45.12	47.41	49.05
3	100-131 hrs.	57	43.58	45.34	45.12	44.09	44.97	49.07
4	132-163 hrs.	41	46.37	46.08	44.61	41.72	43.49	46.40
			Self-Reliant			Gregarious		
			7	8	9*	10	11	12
1	36-67 hrs.	25	52.91	54.41	50.99	53.64	52.88	54.15
2	68-99 hrs.	48	54.84	52.97	50.11	54.47	53.86	54.28
3	100-131 hrs.	57	54.73	55.75	53.24	53.48	53.57	57.07
4	132-163 hrs.	41	53.77	57.62	55.42	55.35	53.24	54.69

\*Significant at .05 level.

Only three of the twelve items were statistically significant, although items one and eight also approached significance. Scores of 50 are average. A score of over 50 indicates a very characteristic item. Looking at the results globally in terms of traits, it appears that the group of students who were dismissed from the Center earliest tended to be more characterized by apathy than other groups. Their indifference, rather than their lack of ability, may have been one of the factors associated with their reading problems. Group 2 tended to score higher than the other groups on items measuring anti-social tendencies. The groups who stayed in the Center the longest were characterized by their self-reliance. High scores on this trait may have encouraged Center personnel to persist in trying to help these children.

Conclusions. In light of these analyses it appears that differences in personality traits as well as aptitudes and initial achievement may influence how long children remain in the Center. The 1970-71 evaluation will provide a better basis for further examination of these topics.

Summary of Conclusions:

1. Children served by the Center tended to make greater gain scores than could be reasonably attributed to extraneous factors such as normal growth and maturation.
2. The length of time children remained in the Center was apparently related to the extent to which they needed help. The more help they needed, the longer they were likely to stay.

3. Children who possessed more desirable personality traits were likely to remain at the Center longer than children with less desirable traits.

Recommendation:

The 1970-71 study should focus upon determining optimal time allocations for various types of pupils referred to the Center. As children enter the Center, they should be assigned at random to time groups. The time group to which a child is assigned will determine when he will take his posttest. The research design will not regulate when children are actually dismissed, except in the case of pupils who are ready for dismissal prior to their post-test date. The results of the study should provide valuable information regarding growth curves for children classified in terms of academic and personality characteristics.

The proposed study can provide a basis for maximizing the benefits of this successful program. It will give an indication of how long it takes for particular types of children to reach points of diminishing returns in terms of gain scores.

APPENDIX A

Child's Name \_\_\_\_\_ School \_\_\_\_\_

Student Number \_\_\_\_\_ Teacher's Name \_\_\_\_\_

1. Did student have Head Start?
2. Did student have over six months of some other pre-school program?

No Yes  
 1 2  
 1 2

Please rate the above child as he stands now in the following areas:

ACHIEVEMENT

	Unsatisfactory	Poor	Fair	Good	Excellent
3. Reading	1	2	3	4	5
4. Math	1	2	3	4	5
5. Handwriting	1	2	3	4	5
6. Citizenship	1	2	3	4	5

PERSONAL CHARACTERISTICS

7. Attitude Toward School	1	2	3	4	5
8. Personal Appearance	1	2	3	4	5
9. General Health	1	2	3	4	5
10. Cooperativeness of Parent or Guardian	1	2	3	4	5
11. Socio-Economic Status	1	2	3	4	5
12. How much progress has this child made since starting this fall?	None	Some	Much		
	1	2	3	4	5
13. How does the child's present level of performance compare with his classmates.	Below	About the Same	Above		
	1	2	3	4	5
				6	7

APPENDIX A

BEHAVIOR INVENTORY RATING SHEET

Please rate how this child behaves by circling one of the seven responses to each question.

Not At All Like	Very Little Like	Some- What Like	Pretty Much Like	Quite A Bit Like	Very Much Like	Exactly Like
-----------------------	------------------------	-----------------------	------------------------	------------------------	----------------------	-----------------

- |                                                                                                                                     |   |   |   |   |   |   |   |
|-------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|
| 14. Is usually carefree, rarely becomes frightened or apprehensive.                                                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. Talks eagerly to adults about his own experiences and what he thinks.                                                           | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. Often keeps aloof from others because he is uninterested, suspicious or bashful.                                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. Tries to figure out things for himself before asking adults or other children for help.                                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. Has little respect for the rights of other children; refuses to wait his turn, takes toys other children are playing with, etc. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. Seems disinterested in the general quality of his performance.                                                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. When faced with a difficult task, he either does not attempt it or gives up very quickly.                                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. Likes to talk or socialize with teacher.                                                                                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 22. Requires the company of other children; finds it difficult to work or play by self.                                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 23. Is eager to inform other children of the experiences he has had.                                                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 24. Appears to trust in his own abilities.                                                                                          | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 25. Responds to frustration or disappointment by becoming aggressive or enraged.                                                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 26. Is constricted, inhibited or timid; needs to be urged before engaging in activities.                                            | 1 | 2 | 3 | 4 | 5 | 6 | 7 |



Not At All Like	Very Little Like	Some- what Like	Pretty Much Like	Quite A Bit Like	Very Much Like	Exactly Like
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7

27. Asks many questions for information about things, persons, etc. (Emphasis here should be on question prompted by genuine curiosity rather than bids for attention.)

28. Emotional response is customarily overstrong; over-responds to usual classroom problems, frustrations and difficulties.

29. Is lethargic or apathetic; has little energy or drive.

30. Is often quarrelsome with classmates for minor reasons.

31. Demonstrates imaginativeness and creativity in his use of things and play materials.

32. Does not need attention or approval from adults to sustain him in his work or play.

33. Has a tendency to discontinue activities after exerting a minimum of effort.

34. Goes about activities with a minimum of assistance from others.

35. Insists on maintaining his rights, e.g. will not yield his place at painting or at the carpentry bench, etc.; insists on getting his turn on the slide or at group games, etc.

36. Often will not engage in activities unless strongly encouraged.