

LAKEHEAD UNIVERSITY

VERBAL MEMORY SCALE:

A test of children's short-term
and long-term recognition and recall
using different channels of input and output

by

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A THESIS

SUBMITTED TO THE FACULTY OF ARTS
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF ARTS

DEPARTMENT OF PSYCHOLOGY

THUNDER BAY, ONTARIO, CANADA

JANUARY 1978

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FACULTY OF ARTS

The undersigned certify that they have read, and recommend to the Faculty of Arts for acceptance, a thesis entitled "Verbal Memory Scale: A test of children's short-term and long-term recognition and recall using different channels of input and output," submitted by Barbara Ellen Thomas in partial fulfillment of the requirements for the degree of Master of Arts.

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ACKNOWLEDGEMENTS

I would like to take this opportunity to express my gratitude to everyone who contributed to the development of this thesis. The numbers are too many and their contributions too varied to name them all here.

There are those, however, I must mention, for without their support this document might never have ensued.

First of all, my thanks to my advisors - to Dr. Bauman for his enthusiasm and conviction in the value of the project, and to Mr. Ken Allan for his rational perspective towards the endeavor - the return to reality for the mad scientist.

I would like to thank my research assistants: Carol Anne Driscoll, Joyce Hancock and Irinella Papadopoulos for their commitment and dedication to the research. Without their assistance and encouragement I could not be writing this today.

I extend my appreciation to Mr. F. C. MacDonald, Superintendent of Curriculum for the Lakehead Board of Education and Mr. G. S. O'Brien, Director of Education for the Separate School Board for making it possible for me to have access to the students within their school systems.

My thanks go out to the principals and teachers who allowed me to enter their classrooms and who were so flexible and co-operative that it was a treat just to be visiting their school.

And of course the children...my thanks to all the grade 2 and grade 4 students who eagerly participated in the study and whose efforts I could not have done without. I'd like to extend my appreciation also to their parents for consenting to have their children take part in the study.

I would like to express my deepest gratitude to my fellow graduate students and to other faculty members for listening, understanding, suggesting and for caring. Their support and advice was invaluable.

Lastly, I would like to say thank-you to my Jim. Thank-you for being there.

ABSTRACT

This study tests out the feasibility and methodology for developing a comprehensive test for memory. Only a portion of the envisioned comprehensive test is considered. Specifically, the memory scale in this study is designed to measure retention ability relevant to school learning. The scale is controlled for visual-verbal (written) and auditory-verbal (spoken) input and requires motor-verbal (written) and vocal (spoken) output. It measures immediate memory (10 - 30 seconds) and delayed memory (24 hours) using recall and recognition tasks. One-hundred and seventy-seven elementary school students in grades two and four are used as subjects. The test is item analyzed and the revised test is rescored. The Wechsler Memory Scale - Logical Memory subtest is administered to high and low scoring subjects on the auditory input vocal output subtest for both grades. There is a significant correlation between the scores for the low scoring subjects for both grade levels but not for the high scorers.

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Chalfant and Schefflin (1969), in their review of the research on short term memory, concluded that there has been a gradual shift from a global concept of memory to a molecular concept of memories. They point out that factor analysis has advanced the theory that there is no general memory, only a number of special memories. In other words, an individual may perform well on one kind of memory task and perform inadequately on another. This view, they point out, suggests that some of these memory functions have little or no relationship to each other.

French et al (1962, cited in Whimbey and Whimbey, 1975) determined that memory span ability does not correlate highly with other learning and memory measures, and Jensen (1962, cited in Whimbey and Whimbey, 1975) states: "among healthy adults, each type of memory ability appears to be specific unto itself; no overall memory ability has been isolated". Whimbey adds that instead of such an overall memory ability, there is memory for serial lists, memory for paired associates, symbolic memory, semantic memory, figural memory, long-term memory, short-term memory, etc., and that each of these categories breaks down even further. Whimbey goes on to say that the reason for this specificity is apparently that each type of memory requires a different pattern of organization and background experience.

In 1974, Jenkins summed it up by saying:

I think it is clear that we should shun any notion that memory consists of a specific system that operates with one set of rules on one kind of unit. What is remembered in a given situation depends on the physical and psychological context in which the event was experienced, the knowledge and skills that the subject brings to the context, the situation in which we ask for evidence for remembering, and the relation of what the subject remembers to what the experimenter demands. (p. 793)

Tests Available

There is no comprehensive test of memory abilities on the market today. In order to assess memory, it is necessary to administer a number of tests, or parts of tests, that measure specific memory abilities. Even this is inadequate since some important factors are not included in any of these tests.

(1) Time Element Chalfant and Schefflin (1969) found that most of the memory research involved "short-term memory, usually defined as recall within seconds, as opposed to long-term memory in which the retention is a matter of hours".

In the literature there is some confusion about what is called "immediate" memory and what is called "short-term" memory - sometimes the terms are used interchangeably. In any case, it is quite apparent that there is no test for long-term memory, that is, a test that involves a retention period of hours or days.

Myers and Hammill (1969) state that most of the individually administered intelligence tests include items concerned with the assessment of short-term memory. All of the tests of memory that I came across in my research, were defined as tests of immediate memory

or short-term memory. These tests include the: Visual Retention Test (Benton, 1963); Bender Visual Motor Gestalt Test (Clawson, 1970); Durrell Analysis of Reading Difficulty (Durrell, 1955); Memory for Designs Test (Graham and Kendall, 1960); Wechsler Adult Intelligence Scale (WAIS), Wechsler Intelligence Scale for Children (WISC) (Matarazzo, 1972); McCarthy Scales of Children's Abilities (MSCA) (McCarthy, 1972); Wechsler Memory Scale (WMS) (Wechsler and Stone, 1972); and the Illinois Test of Psycholinguistic Abilities (ITPA) (Kirk, McCarthy and Kirk, 1968).

(2) Memory Task Memory ability is generally assessed by performance on recognition or recall tasks. McCarthy and McCarthy (1971) refer to these tasks in terms of degree of memory, that is, recognition, the less difficult, requires the child to remember which of several alternatives is correct, while recall demands retrieval responses with few or no clues. Recall tasks can be subdivided into voluntary (or free) recall and aided recall, that is, recall following specific questioning. Experiments comparing recall and recognition memory indicate that performance on recognition tasks is decidedly better than performance on recall tasks. (McCarthy and McCarthy, 1971; Chalfant and Schefflin, 1969) Logically, it follows that aided recall should be an easier task than voluntary recall.

The Durrell (Durrell, 1955) is unique in demanding all three types of tasks: recognition for "Visual Memory for Words - Primary"; voluntary recall for the subtests "Visual Memory of Words - Intermediate" and "Silent Reading"; and aided recall for "Silent Reading".

With the exception of the Durrell, all of the other tests

investigated (the Bender (Clawson, 1970); the Benton (Benton, 1963); the ITPA (Kirk, McCarthy and Kirk, 1968); the Memory for Designs Test (Graham and Kendall, 1960); the MSCA (McCarthy, 1972); the WAIS (Matarazzo, 1972); the WISC (Wechsler, 1949); and the WMS (Wechsler and Stone, 1972)) require only voluntary recall tasks.

(3) Modes of Input and Output One of the most popular methods of assessing memory incorporates the visual presentation of geometric designs and the subsequent reproduction of those designs, that is, visual nonverbal input and motor nonverbal output. This is the case for the Bender (Clawson, 1970), Benton (Benton, 1963), Memory for Designs (Graham and Kendall, 1960) and the Visual Reproduction subtest of the WMS (Wechsler and Stone, 1972). Although the Visual Sequential Memory subtest for the ITPA uses visual presentation of geometric designs, it requires a somewhat different motor nonverbal output in that it requires rearranging chips into the previously presented order rather than drawing the designs presented.

Another popular input/output combination is the auditory presentation of numbers (digits) and the vocal (spoken) response. This task has been given many different names: Numerical Memory in the MSCA (McCarthy, 1972); Auditory Sequential Memory in the ITPA (Kirk, McCarthy and Kirk, 1968); Memory Span in the WMS (Wechsler and Stone, 1972); and Digit Span in the WAIS and WISC (Matarazzo, 1972).

An auditory-verbal (spoken) input with vocal (spoken) response is used in the Logical Memory subtest of the WMS (Wechsler and Stone, 1972); the Verbal Memory subtest of the MSCA (McCarthy, 1972); and the Listening Comprehension subtest of the Durrell (Durrell, 1955).

Though Durrell does not claim to be assessing memory on the Listening Comprehension subtest, memory ability certainly affects scores on this subtest.

On the "Pictorial Memory" and "Tapping Sequence" subtests of the MSCA, McCarthy (1972) implements simultaneous auditory and visual stimuli. Pictorial Memory is tested using vocal response, and Tapping Sequence is tested using a motor nonverbal response - the reproduction of the tapping sequence presented on an xylophone.

Durrell (1955) provides visual verbal input for the subtests "Silent Reading" and "Visual Memory for Words", Primary and Intermediate, however he implements three different types of output to measure these abilities: vocal output for Silent Reading; motor nonverbal output (i.e., circling the correct response) for Visual Memory for Words - Primary; and motor verbal output (i.e., written) for Visual Memory for Words - Intermediate.

There is no test which systematically assesses the different modes of input and output.

(4) Intersensory Integration Tests of memory on the market today are typically tests of single channel abilities. For example, the ITPA measures visual memory and auditory memory separately but it does not assess intersensory memory. Birch and Lefford (cited in Birch, 1964) emphasize the importance of intersensory integration:

The evidence for normal children strongly confirms the view that the elaboration of intersensory relations represents a set of developmental functions showing age-specific characteristics and markedly regular curves of growth. At the very least, the emergence of such relationships

appears to be delayed in the "brain-damaged" children, a factor which may seriously limit possibilities for the normal utilization and integration of environmental information. (p. 59)

Further, they state:

Since the development of interrelations among all sensory modalities are not equally affected by damage to the nervous system, the possibility exists that the opportunities for relatively normal development may be enhanced if educational stress is placed upon experiences which emphasize the utilization of the most adequately integrated systems. (p. 59)

The Need for a Comprehensive Test of Memory

As indicated earlier, there is no unitary memory ability, rather there are a number of specific types of memory abilities with little or no relationship between them. Further, there is currently no comprehensive test of these memory abilities on the market today although there are a number of tests that measure specific memory abilities in isolation. Of these tests, none measure long-term memory. Myers and Hammill (1969) state that the abstractions necessary for reading with comprehension or for doing complicated arithmetic calculations are mental activities which depend upon long-term memory, yet there is no test for long-term memory.

It seems reasonable, that the most efficient way to assess memory abilities or disabilities would be to administer one comprehensive test of memory that would incorporate all of the specific memory abilities deemed necessary. For instance, the envisioned test might control for various inputs: visual-verbal (written); visual nonverbal (pictures, objects, faces); auditory-

verbal (spoken); auditory-nonverbal (rhythm tapping); and tactile. The test might demand specific outputs: motor-verbal (written); motor-nonverbal (drawings, lines); vocal (spoken); auditory-nonverbal (humming); and tactile. Recall and recognition tasks could be incorporated for a variety of retention intervals and include immediate, short-term and long-term memory. The content of the test could include a range of items: meaningful, nonmeaningful, verbal, numerical, designs, forms, and so forth.

The need for standardized assessment procedures for short-term and long-term memory has been documented. (Chalfant and Schefflin, 1969; Harper and Wiens, 1975) Jenkins (1974) has suggested that the kind of tool that emerges will reflect the kinds of events that concern the researcher. The question he poses is: "What kind of an analysis of memory will be useful to you in the kinds of problems you are facing?"

The Purpose of this Thesis

The approach to the assessment of memory abilities and disabilities that is used in this research pertains to the effect of memory on school performance. Chalfant and Schefflin (1969) make a suggestion specifically related to this:

Instead of relying upon digit or word span, perhaps educators should begin thinking of assessing memory in terms of specific school tasks where recall and recognition are required for achievement. (p. 69)

With this in mind, this thesis is an attempt to develop a portion of the envisioned comprehensive test for memory - that portion determined to be most relevant to classroom learning. The

purpose of this thesis is not to attempt to follow through every combination of variables that might be incorporated into a comprehensive test for memory, nor to attempt to include all the factors that ideally belong in a memory test for use in the schools. Rather, the purpose of this study is to develop a scale that systematically assesses verbal memory using visual and auditory inputs and motor and vocal outputs. This is accomplished by means of recall and recognition tasks for long-term as well as immediate memory.

METHOD

Subjects

One hundred and seventy-seven subjects were selected from four public and two separate schools in the middle class area of Thunder Bay - a city of 110,000 people in northwestern Ontario.

The Ss were male and female students enrolled in grades two and four. All Ss were in their age-appropriate grade placement, that is, they could not have failed or accelerated in school, and they had to be reading at least at their grade level. The criteria used to determine the student's reading level was based on their teacher's verbal appraisal. Ss were also required to be available at the same time on two consecutive days for both the group and individual administrations of the test. All students in the Grade two and four classes in these schools were eligible to participate in the study with the exception of those disqualified by age or reading ability.

Of the 177 Ss, 20 grade two and 30 grade four Ss were used in an initial pilot study in an attempt to minimize methodological problems. Four of these grade four Ss did not attend all four testing sessions so were eliminated from the sample.

The remaining 65 grade two Ss and 62 grade four Ss comprised the subject pool for the subsequent administration of the test. Of these, three grade two and three grade four Ss were absent for at least one testing session and were eliminated from the subject pool.

The grade two subjects included 30 boys and 32 girls between the ages 7 years 5 months 5 days and 8 years 4 months 13 days. There

were 22 boys and 37 girls in the grade four subject pool ranging in age from 9 years 4 months 26 days to 10 years 6 months 14 days.

The merits of two approaches of selecting subjects for the development of the test were considered at length. The first approach - to use a large number of subjects at one grade level (e.g. 100 grade 4 students) was criticized because the usefulness of the test could not be immediately generalized to other grade levels, that is, once the study was completed, the memory scale could only be administered to students in the specific grade level represented in the sample. The second approach - to use a small number of subjects for a broader spectrum of grade levels (e.g. 20 subjects each from grades 1, 2, 3, 4 and 5) was criticized because the sample size for each grade level would be so small that results could not be generalized to represent performance at each of those grade levels. The resulting compromise of the two approaches was to use two grade levels with 50 subjects each. The grade one level was not included to avoid confounding results with lack of reading ability. Grades two and four were chosen in an effort to indicate the adaptability of the memory scale to a wider range of grade levels.

It would have been better, of course, if the scale had been administered to at least 100 subjects in each of the first 6 elementary grades, but time and resources did not permit the undertaking of so large a project at this time. Further testing is being considered for the future.

Verbal Memory Scale (VMS)

The VMS is designed to measure verbal retention ability relevant to school learning. The scale is divided into four subtests according to input and output.

Since visual-verbal and auditory-verbal inputs are most commonly used in school learning, half of the test has a visual-verbal input (written) and half has an auditory-verbal input (spoken). Likewise, in an attempt to approximate the most common outputs used in school learning, half of the test requires a motor output (written) and half requires a vocal output (spoken).

The scale attempts to measure immediate memory (10 - 30 seconds after input) and delayed (or long-term) memory (24 hours after input) by means of recall and recognition tasks.

The use of the term "delayed memory" (or "long-term memory") as measured by the verbal memory scale is straight-forward in that it measures retention ability of the stimulus material after an interval of 24 hours. The ability measured by performance on the questioning after only 10 - 30 seconds (i.e., immediate memory) is not so straight-forward and requires some explanation.

Myers and Hammill (1969) state that disorders of memory involve difficulty in the assimilation, storage, and/or retrieval of information and may be associated with visual, auditory, or other learning processes. Further, they point out that disorders of auditory memory derive from an inability to reproduce rhythm patterns or sequences of digits, words or phrases as well as from auditory imperception, difficulty in associational and categorizational

processes, or perhaps even some form of output deficit. Disorders of visual memory reflect an inability to revisualize letters, words, or forms and may be associated with the various developmental levels, the meaningfulness of the material, or the long-term - short-term dichotomy. Vergason (1968, cited in Myers and Hammill, 1969) has pointed out that memory is related highly to such phenomena as: (1) the attention of the child; (2) mediation (recognition by the child of the similarities and differences of new material to that which is already learned); (3) the meaningfulness of the new material to the child; (4) overlearning (i.e., practice beyond one errorless trial, which is reported to facilitate retention); and (5) interference, the foremost explanation for forgetting.

With these thoughts in mind, the memory scale includes recall and recognition tasks 10 to 30 seconds after the stimulus presentation. Performance after this time interval is called, for lack of a better term, "immediate memory". If a child is able to respond to the questions for immediate memory, it can be concluded that he/she has attended, received, and processed the information and has been able to respond to the questions, therefore, on subsequent questioning - after an interval of 24 hours - one can attribute the scores to retention ability. If, on the other hand, the child is unable to respond to the questions for immediate memory, one cannot conclude that the child's performance is due solely to a lack of memory. In this case, any or all of the previously mentioned variables may be responsible.

(1) The Test Sequence The VMS is administered in a sequence of four stages as follows:

DAY I (Immediate Memory)

Stage 1 GROUP ADMINISTRATION (motor-verbal response, i.e., written)

Part I Visual-verbal input (written)

- Recall task
- Recognition task

Part II Auditory-verbal input (spoken)

- Recall task
- Recognition task

Stage 2 INDIVIDUAL ADMINISTRATION (vocal response, i.e., spoken)

Part I Visual-verbal input (written)

- Recall task
- Recognition task

Part II Auditory-verbal input (spoken)

- Recall task
- Recognition task

DAY II (Delayed Memory)

Stage 3 GROUP ADMINISTRATION

- Part III
- Recall task for Part I
 - Recognition task for Part I
 - Recall task for Part II
 - Recognition task for Part II

Stage 4 INDIVIDUAL ADMINISTRATION

- Part III
- Recall task for Part I
 - Recognition task for Part I
 - Recall task for Part II
 - Recall task for Part II

(2) Testing Time Approximately 30 minutes are required to administer each of the four stages of the scale. Testing time will vary depending upon the time the students require to read, write and compose answers. Since there is no time limit for this scale, the group administrations take as much time as the slowest worker requires. For ease in administration, students' work habits should be considered when selecting groups. The group size can vary depending upon how many students can be scheduled into individual sessions on the same two consecutive days, for example, one examiner could handle five to seven students for the two-day testing period in individual sessions so the group could have a maximum of seven students.

(3) Content The scale consists of paragraphs adapted from the Durrell Analysis of Reading Difficulties (Durrell, 1955), the Grade 4 reader Starting Points in Reading A (Hooper, 1973) and two Grade 2 readers: Stories Old and New (McIntosh, 1963) and Magic and Make-believe (McInnes, no date given). Students are given only those paragraphs that are at, or one year below their level of reading. (see Appendices A, B, D, F, G and J)

(4) General Directions for Administering All students are presented with each stimulus paragraph only once, with instructions to: "Read it (or, listen) carefully so that you can answer questions about it later". Immediately following the presentation, they are required to answer specific questions about the content of the paragraph (recall task, immediate memory) and then they are given the same questions with instructions to select the answer that belongs in the

story from the three choices provided (recognition task, immediate memory). Twenty-four hours later the same questions are asked to test recall and recognition for delayed memory. Test Manuals for Group and Individual Administrations are provided in Appendices A and F, respectively.

(5) General Scoring Rules Sample questions provide practice exercises and allow for clarification of test instructions - they are not scored. All other test items are scored either 1 or 0 on both recall and recognition tasks. Scoring criteria for recall tasks for grades two and four are presented in Appendices M and N, respectively. Scoring keys for recognition tasks for grades two and four are provided in Appendices O and P, respectively.

Since scoring the recall tasks on the VMS requires a certain amount of subjective interpretation, scoring guidelines have been outlined.

Test items are credited for recall of ideas. There is no penalty for spelling or grammar errors, improper use of upper and lower case or the order of recall.

Examinees are not penalized for elaboration except where it distorts the facts. For example, "a big fat cat" is acceptable for "a cat" or "a big cat" but "gray and white" is not acceptable for "gray".

A response that is so specific that it distorts the original meaning of the story, is scored as zero. For example, "things to eat" is acceptable for "food" but "some fruit" is not acceptable. Likewise, although a response may contain evidence of some memory of

the facts, if it is so general that it loses information, it is scored as zero, for instance, "furniture" instead of "a table and two chairs" would be scored zero.

An examinee cannot be penalized twice for the same error. If for one question the response was "he found a box" instead of "he found a basket", and on a subsequent question the response was "he was glad to get out of the box" instead of "he was glad to get out of the basket", the first item would be scored as zero and the next would be scored as one point.

(6) Testing Materials Testing materials required for group administrations of the Verbal Memory Scale include the Manual for Group Administration (Appendix A); Answer Booklets (Appendices B, C, D and E); and pencils and erasers for each examinee. For individual administrations of the Verbal Memory Scale, the following testing materials are required: the Manual for Individual Administrations (Appendix F); Test Booklets (Appendices G and J); Question Sheets (Appendices H and K) and Answer Sheets (Appendices I and L).

The Scoring Criteria for Recall Tasks (Appendices M and N) and Scoring Keys for Recognition Tasks (Appendices O and P) are needed for both group and individual administrations of the scale.

Procedure

The initial memory scale was administered to 20 grade two and 26 grade four Ss in an attempt to minimize methodological problems. The scale was then administered to the remaining 62 grade two and 59 grade four Ss. The services of three research-assistants

provided the opportunity to schedule the subjects in groups of 10 to 28 for the two-day testing periods.

In the morning of the first day, Section I (Parts I and II) of the scale was administered to the group of Ss by the researcher. In the afternoon of the same day, each of those Ss was individually administered Section II (Parts I and II) of the scale by one of the four examiners.

The following morning the group was given Section I (Part III) of the scale by the researcher. In the afternoon, each S was administered Section II (Part III) of the scale by the same administrator they'd been assigned to the previous day. All Ss participated in all four testing sessions on the two consecutive days.

The testing sessions for the group administrations took from one-half hour to one hour on the first day and approximately half an hour on the second day. Individual sessions took less than half an hour each day.

All tests were scored and scoring criteria were developed. An item analysis was performed for both grade levels of the scale.

Scores on the Auditory Input Vocal Output subtest of the scale were rank-ordered for each grade. Subjects with the lowest five scores and subjects with the highest five scores were assigned to Low and High Groups, respectively. The Wechsler Memory Scale - Logical Memory subtest was administered to each subject in the four groups. Correlational analyses were performed.

RESULTS AND DISCUSSION

Mean performance scores and standard deviations of initial test items by condition are shown in Table 1 for the Grade 2 Scale and in Table 2 for the Grade 4 Scale.

Item difficulty is presented graphically for Grade 2 test items in Figure 1 for the recall task and in Figure 2 for the recognition task. Item difficulty for the Grade 4 test items on the recall task is shown in Figure 3 and on the recognition task in Figure 4.

Means and standard deviations were calculated for each grade level for the four subtests of the Verbal Memory Scale: Visual Input Motor Output; Auditory Input Motor Output; Visual Input Vocal Output and Auditory Input Vocal Output. These are provided in Table 3 for Grade 2 and Table 4 for Grade 4.

Item Analysis

Item analyses were executed for both grade levels of the Verbal Memory Scale.

In calculating item-total-score correlations, a correction for part-whole overlap was implemented. The rationale for such a correction was explained by Guilford and Fruchter in 1973 as follows:

An item-total correlation is a part-whole correlation and is thus spuriously high because the item's specific and error variances contribute to the correlation as well as to its common-factor variance, where only the latter should be tolerated for complete accuracy. The smaller the number of items in a test, the more serious the inflation of r from this source. (p. 454)

Henrysson's formula for a "Point-biserial correlation between a test item and the total-test score, corrected for part-whole overlap" was used. (Guilford and Fruchter, 1973, p. 455)

Table 1

Mean Performance Scores and Standard Deviations of Grade 2
Test Items as a Function of Condition Prior to Item Analysis

Item	Day I				Day II			
	Recall		Recognition		Recall		Recognition	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
1	.806	.398	.887	.319	.855	.355	.839	.371
2	.823	.385	.903	.298	.855	.355	.968	.178
3	.726	.450	.903	.298	.790	.410	.984	.127
4	.274	.450	.839	.371	.339	.477	.742	.441
5	.968	.178	.935	.248	.968	.178	.984	.127
6	.484	.504	.629	.487	.500	.504	.677	.471
7	.726	.450	.855	.355	.774	.422	.903	.298
8	.548	.502	.645	.482	.532	.503	.742	.441
9	.613	.491	.742	.441	.645	.482	.758	.432
10	.726	.450	.903	.298	.790	.410	.887	.319
11	.823	.385	.887	.319	.839	.371	.871	.338
12	.839	.371	.984	.127	.887	.319	.968	.178
13	.516	.504	.645	.482	.548	.502	.597	.495
14	.726	.450	.903	.298	.790	.410	.968	.178
15	.952	.216	.984	.127	.968	.178	.952	.216
16	.323	.471	.903	.298	.516	.504	.887	.319
17	.548	.502	.887	.319	.710	.458	.855	.355
18	.113	.319	.806	.398	.177	.385	.871	.338
19	.597	.495	.726	.450	.516	.504	.677	.471
20	.468	.503	.839	.371	.645	.482	.855	.355
21	.677	.471	.887	.319	.774	.422	.919	.275
22	.161	.371	.645	.482	.210	.410	.645	.482
23	.081	.275	.613	.491	.177	.385	.565	.500
24	.919	.275	.952	.216	.855	.355	.984	.127
25	.613	.491	.726	.450	.645	.482	.758	.432
26	.710	.458	.952	.216	.758	.432	.855	.355
27	.694	.465	.855	.355	.742	.441	.839	.371
28	.823	.385	.952	.216	.790	.410	.919	.275
29	.758	.432	.984	.127	.806	.398	.952	.216
30	.806	.398	.968	.178	.758	.432	.968	.178
31	.871	.338	.871	.338	.871	.338	.871	.338
32	.097	.298	.581	.497	.177	.385	.742	.441
33	.661	.477	1.000	0.0	.806	.398	.984	.127
34	.016	.127	.968	.178	.194	.398	.968	.178
35	.839	.371	.968	.178	.935	.248	.968	.178
36	.597	.495	.645	.482	.677	.471	.677	.471
37	.758	.432	.919	.275	.887	.319	.919	.275
38	.790	.410	.968	.178	.839	.371	.935	.248
39	.935	.248	.952	.216	.968	.178	.952	.216
40	.065	.248	.984	.127	.032	.178	.984	.127
41	.258	.441	.694	.465	.323	.471	.677	.471
42	.548	.502	.839	.371	.613	.491	.742	.441
43	.016	.127	.855	.355	.048	.216	.806	.398
44	.290	.458	.355	.482	.242	.432	.274	.450
45	.629	.487	.742	.441	.758	.432	.790	.410

Table 2

Mean Performance Scores and Standard Deviations of Grade 4
Test Items as a Function of Condition Prior to Item Analysis

Item	Day I				Day II			
	Recall		Recognition		Recall		Recognition	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
1	.695	.464	.695	.464	.492	.504	.525	.504
2	.644	.483	.814	.393	.610	.492	.746	.439
3	.898	.305	.864	.345	.864	.345	.864	.345
4	.271	.448	.983	.130	.305	.464	1.000	0.0
5	.966	.183	.966	.183	.932	.254	.983	.130
6	1.000	0.0	.966	.183	1.000	0.0	.983	.130
7	.407	.495	.695	.464	.407	.495	.627	.488
8	.119	.326	.898	.305	.119	.326	.814	.393
9	.508	.504	.949	.222	.695	.464	1.000	0.0
10	.390	.492	.847	.363	.712	.457	.847	.363
11	.305	.464	1.000	0.0	.627	.488	1.000	0.0
12	0.0	0.0	.407	.495	0.0	0.0	.390	.492
13	.017	.130	.610	.492	.051	.222	.593	.495
14	.797	.406	.881	.326	.831	.378	.864	.345
15	.407	.495	.695	.464	.441	.501	.610	.492
16	.525	.504	.542	.502	.542	.502	.627	.488
17	.322	.471	.780	.418	.441	.501	.814	.393
18	.593	.495	.678	.471	.593	.495	.695	.464
19	.593	.495	.627	.488	.576	.498	.542	.502
20	.407	.495	.763	.429	.593	.495	.780	.418
21	.390	.492	.441	.501	.288	.457	.441	.501
22	.678	.471	.881	.326	.593	.495	.661	.477
23	.458	.502	.949	.222	.746	.439	.915	.281
24	.576	.498	.780	.418	.763	.429	.814	.393
25	.763	.429	.932	.254	.763	.429	.932	.254
26	.729	.448	.949	.222	.797	.406	.915	.281
27	.644	.483	.915	.281	.678	.471	.932	.254
28	.864	.345	.932	.254	.864	.345	.932	.254
29	.508	.504	.678	.471	.373	.488	.559	.501
30	.525	.504	.898	.305	.644	.483	.898	.305
31	.458	.502	.881	.326	.525	.504	.881	.326
32	.576	.498	.610	.492	.661	.477	.627	.488
33	.729	.448	.932	.254	.881	.326	.949	.222
34	.525	.504	.898	.305	.644	.483	.898	.305
35	.339	.477	.847	.363	.492	.504	.831	.378
36	.559	.501	.729	.448	.593	.495	.729	.448
37	.881	.326	.966	.183	.898	.305	.949	.222
38	.915	.281	.983	.130	.949	.222	.949	.222
39	.559	.501	.729	.448	.661	.477	.712	.457
40	0.0	0.0	.492	.504	0.0	0.0	.424	.498

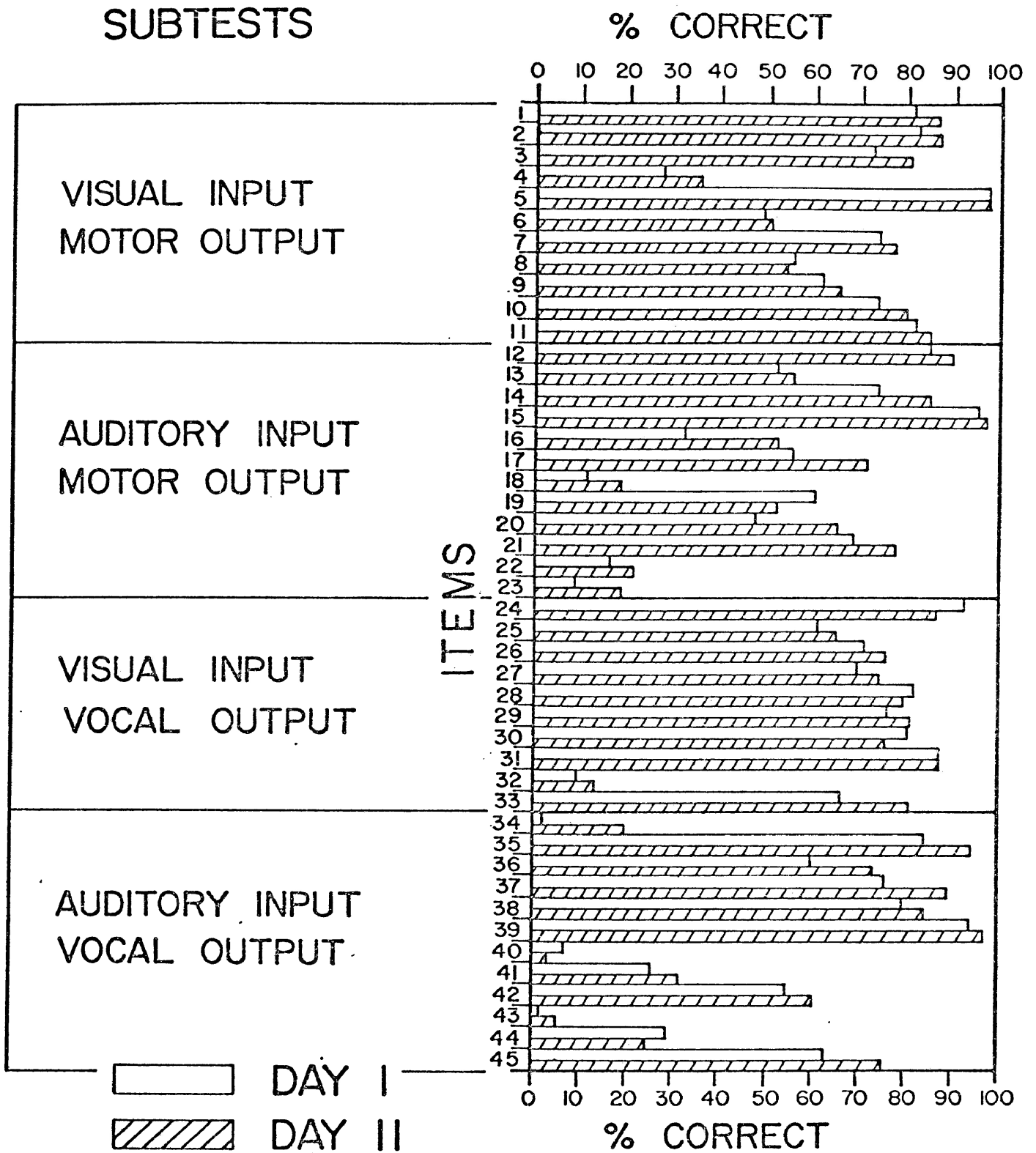


Figure 1. Item difficulty of Grade 2 test items for recall task over time, prior to item analysis.

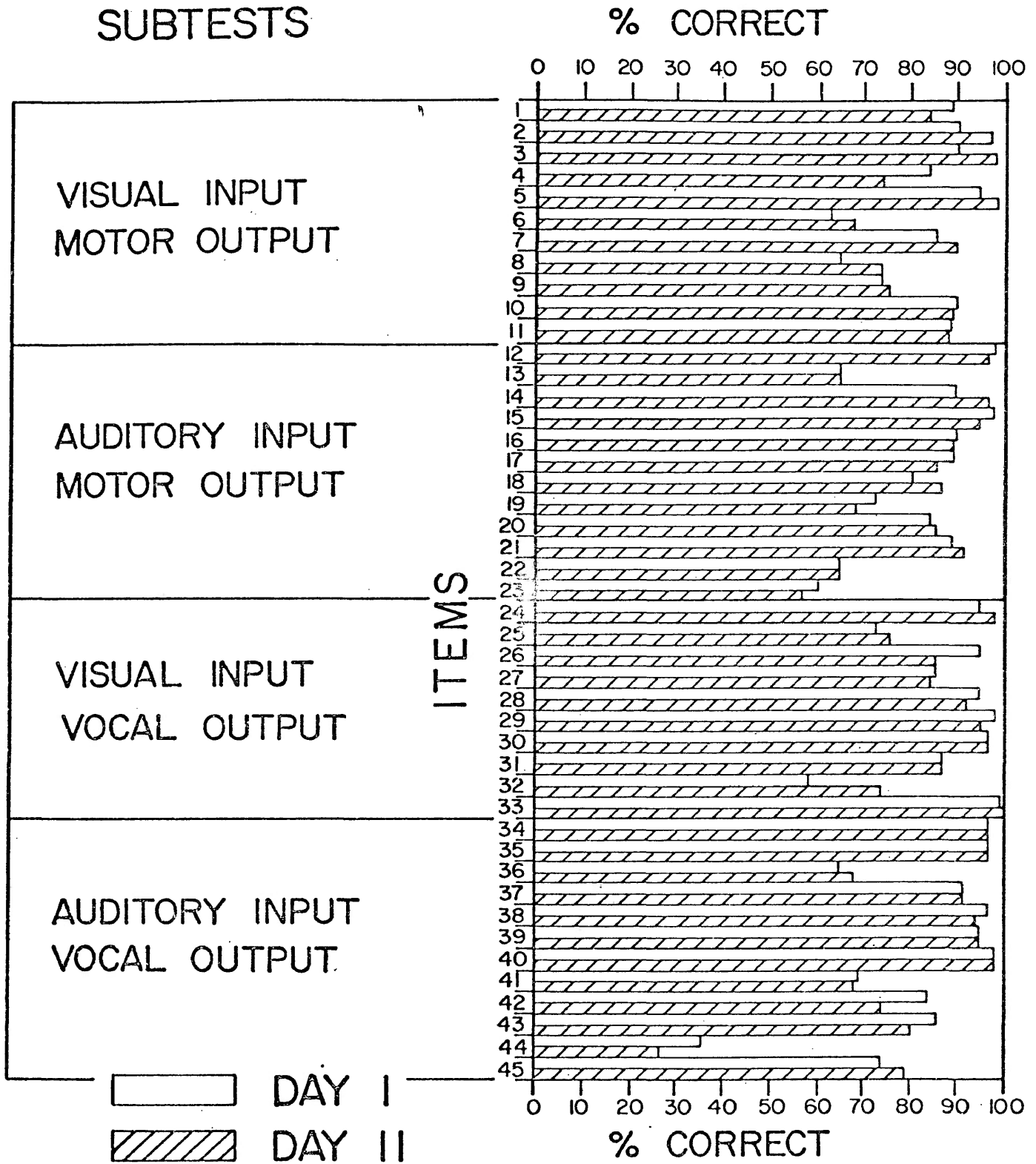


Figure 2. Item difficulty of Grade 2 test items for recognition task over time, prior to item analysis.

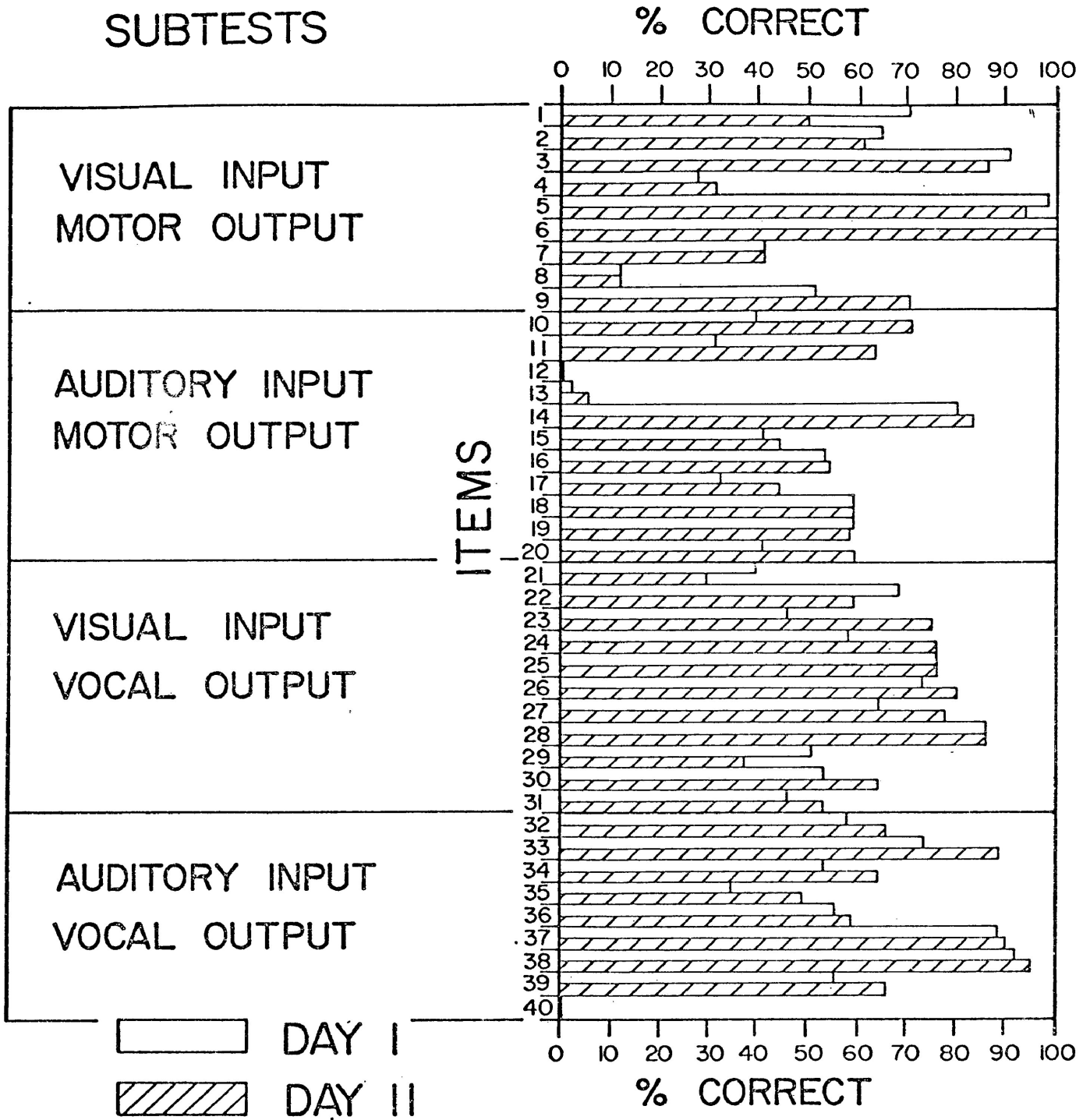


Figure 3. Item difficulty of Grade 4 test items for recall task over time, prior to item analysis.

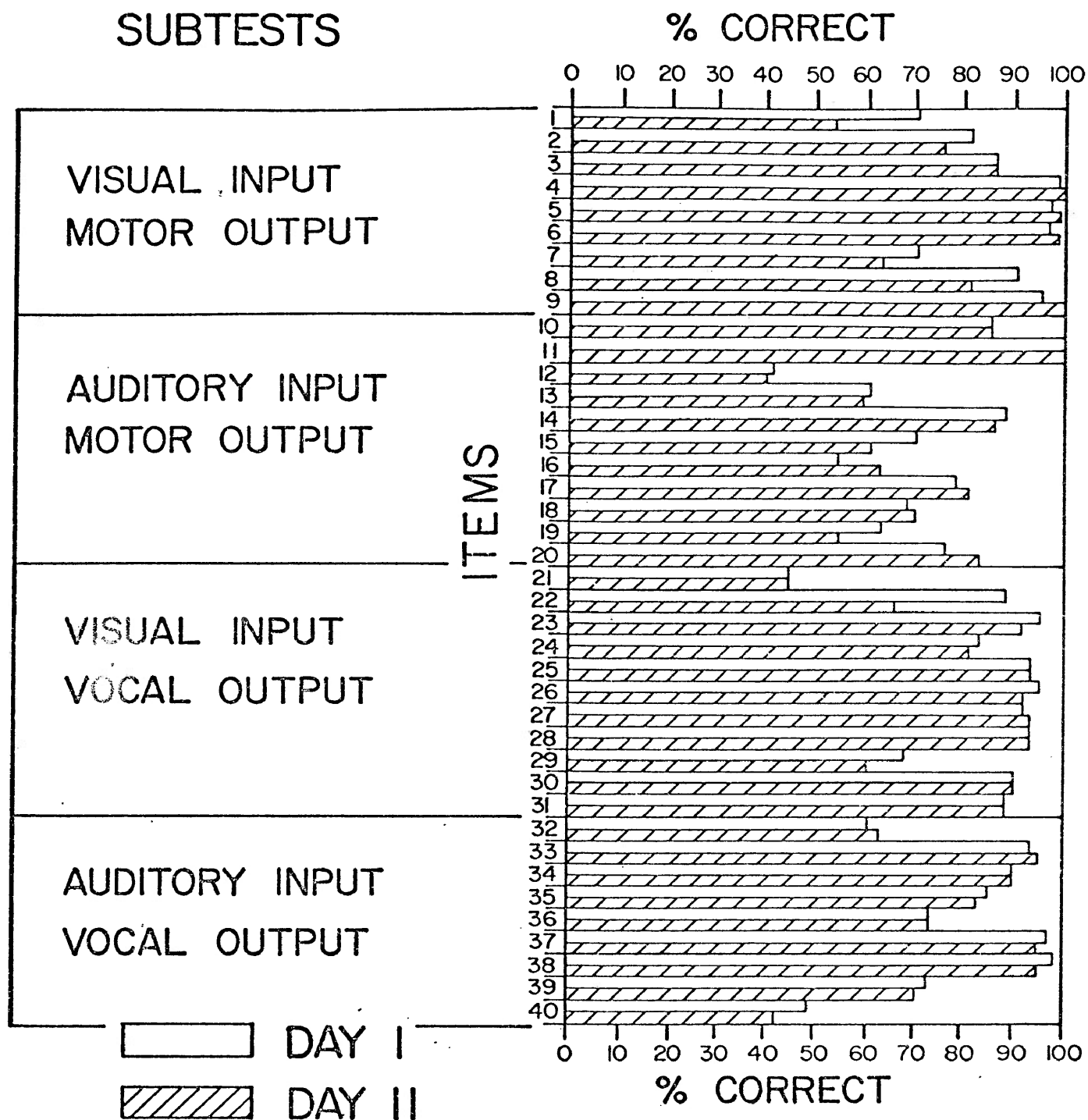


Figure 4. Item difficulty of Grade 4 test items for recognition task over time, prior to item analysis.

Table 3
 Mean Performance Scores and Standard Deviations of Grade 2
 Subtests as a Function of Condition Prior to Item Analysis

Subtest	Day I				Day II			
	Recall		Recognition		Recall		Recognition	
	X	SD	X	SD	X	SD	X	SD
Visual Input Motor Output ^a	7.516	2.140	9.129	1.635	7.887	2.255	9.355	1.709
Auditory Input Motor Output ^b	6.000	1.864	9.823	1.594	6.919	1.902	9.758	1.544
Visual Input Vocal Output ^c	6.952	2.052	8.839	1.244	7.210	1.993	8.871	1.654
Auditory Input Vocal Output ^b	5.742	2.172	9.887	1.404	6.516	1.781	9.694	1.585
Total	26.210	5.871	37.677	3.823	28.532	5.759	37.677	4.464

^a This subtest contained 11 items.

^b This subtest contained 12 items.

^c This subtest contained 10 items.

Table 4
 Mean Performance Scores and Standard Deviations of Grade 4
 Subtests as a Function of Condition Prior to Item Analysis

Subtest	Day I				Day II			
	Recall		Recognition		Recall		Recognition	
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD
Visual Input Motor Output ^a	5.508	1.180	7.831	1.262	5.424	1.342	7.542	1.104
Auditory Input Motor Output ^b	4.356	2.007	7.831	1.802	5.407	2.151	7.763	1.813
Visual Input Vocal Output ^b	6.593	2.283	9.237	1.072	7.034	2.008	8.881	1.451
Auditory Input Vocal Output ^a	5.085	1.860	7.186	1.306	5.780	1.587	7.068	1.271
Total	21.542	5.270	32.085	3.323	23.644	5.388	31.254	3.822

^a This subtest contained 9 items.

^b This subtest contained 11 items.

Item difficulty levels, biserial correlations and corrected correlations are provided in tables 5, 6, 7 and 8 for the Grade 2 Scale and in tables 9, 10, 11 and 12 for the Grade 4 scale. Note that in Table 8 four items (numbers 2, 27, 30 and 39) have biserial correlations beyond the theoretical maximum value. The implicit assumption underlying this statistic is that the distribution is normal. Ferguson (1971) states "Values of r_{bi} greater than unity can occur under gross departures from normality". (p. 359)

(1) Criteria With an N of 60, a significant correlation (at the .05 level) has to be greater than .25. (Guilford, 1954, p. 564)

The criteria for difficulty levels are arbitrarily determined (Anastasi, 1968, p. 163 - 167) and for purposes of this study, have been set at .20 and .80, that is, not less than 20% and not more than 80% of the subjects must get the item correct.

Items that did not meet these criteria were eliminated. Since the criteria typically rejected many more items on the recognition tasks than on the recall tasks, items were retained if they met the criteria on both days for the same task, that is, if an item is rejected by the criteria on Recall Day I and/or Recall Day II, it is eliminated from the test.

(2) Grade 2 Items Item analysis of Grade 2 test items for Recall Day I and Day II are presented in Figure 5 and Figure 6, respectively. For the recall task of the Grade 2 Scale, the number of items was reduced from 45 to 14. Some subtests were reduced more than others: Visual Input Motor Output was reduced from 11 to seven items; Auditory Input Motor Output from 12 to one; Visual Input Vocal Output from 10 to two and Auditory Input Vocal Output from 12 to four items.

Table 5

Difficulty Levels, Biserial Correlations Between Test Items
and Total Test Scores and Biserial Correlations Corrected
for Part-Whole Overlap of Grade 2 Test Items for
Recall Day I prior to Item Analysis

Item	Item Difficulty	Biserial Correlation	Corrected Biserial Correlation
1	.8065	.2474	.1828
2	.8226	.4507	.3913
3	.7258	.6198	.5518
4	.2742	.3278	.2555
5	.9677	.8602	.8424
6	.4839	.6443	.5674
7	.7258	.7196	.6531
8	.5484	.4258	.3461
9	.6129	.3475	.2684
10	.7258	.6281	.5603
11	.8226	.5785	.5210
12	.8387	.4541	.3972
13	.5161	.3564	.2753
14	.7258	.3039	.2313
15	.9516	.3760	.3445
16	.3226	.0757	-0.0040
17	.5484	.4468	.3674
18	.1129	.1379	.0852
19	.5968	.3308	.2509
20	.4677	.0552	-0.0303
21	.6774	.2408	.1635
22	.1613	.3840	.3261
23	.0806	.2955	.2528
24	.9194	.6679	.6307
25	.6129	.4777	.4006
26	.7097	.5238	.4531
27	.6935	.6548	.5847
28	.8226	.7170	.6615
29	.7581	.6577	.5934
30	.8065	.5199	.4593
31	.8710	.2459	.1915
32	.0968	.4648	.4206
33	.6613	.2907	.2132
34	.0161	.1232	.1032
35	.8387	.5787	.5236
36	.5968	.5026	.4252
37	.7581	.4182	.3503
38	.7903	.5937	.5321
39	.9355	.7000	.6678
40	.0645	.4652	.4296
41	.2581	.4855	.4171
42	.5484	.7825	.7081
43	.0161	-0.3584	-0.3855
44	.2903	.4466	.3747
45	.6290	.6510	.5771

Table 6

Difficulty Levels, Biserial Correlations Between Test Items
and Total Test Scores and Biserial Correlations Corrected
for Part-Whole Overlap of Grade 2 Test Items for
Recall Day II Prior to Item Analysis

Item	Item Difficulty	Biserial Correlation	Corrected Biserial Correlation
1	.8548	.4307	.3747
2	.8548	.4678	.4124
3	.7903	.4600	.3948
4	.3387	.3999	.3222
5	.9677	.7456	.7250
6	.5000	.4848	.4036
7	.7742	.8027	.7404
8	.5323	.6493	.5706
9	.6452	.5135	.4365
10	.7903	.7640	.7031
11	.8387	.7887	.7351
12	.8871	.3203	.2691
13	.5484	.3130	.2298
14	.7903	.4796	.4147
15	.9677	.9020	.8837
16	.5161	.3752	.2925
17	.7097	.4911	.4181
18	.1774	.4033	.3417
19	.5161	.2264	.1416
20	.6452	.2177	.1366
21	.7742	.3706	.3022
22	.2097	.1577	.0882
23	.1774	.3056	.2426
24	.8548	.6907	.6384
25	.6452	.2253	.1443
26	.7581	.5604	.4929
27	.7419	.6598	.5920
28	.7903	.4698	.4048
29	.8065	.7035	.6438
30	.7581	.7141	.6488
31	.8710	.3657	.3119
32	.1774	.6422	.5840
33	.8065	.3846	.3204
34	.1935	-0.1274	-0.1988
35	.9355	.3838	.3460
36	.6774	.2883	.2101
37	.8871	.6593	.6129
38	.8387	.6271	.5712
39	.9677	.7456	.7250
40	.0323	.0757	.0457
41	.3226	.3332	.2556
42	.6129	.8537	.7800
43	.0484	.1238	.0878
44	.2419	.3528	.2823
45	.7581	.3344	.2637

Table 7

Difficulty Levels, Biserial Correlations Between Test Items
and Total Test Scores and Biserial Correlations Corrected
for Part-Whole Overlap of Grade 2 Test Items for
Recognition Day I prior to Item Analysis

Item	Item Difficulty	Biserial Correlation	Corrected Biserial Correlation
1	.8871	.3718	.2942
2	.9032	.3244	.2515
3	.9032	.2499	.1757
4	.8387	.4482	.3584
5	.9355	.5979	.5432
6	.6290	.4117	.2905
7	.8548	.4308	.3447
8	.6452	.5588	.4414
9	.7419	.5244	.4173
10	.9032	.5231	.4538
11	.8871	.4828	.4073
12	.9839	.7054	.6846
13	.6452	.1703	.0459
14	.9032	.6224	.5549
15	.9839	.7054	.6846
16	.9032	.4486	.3780
17	.8871	.7271	.6559
18	.8065	.4669	.3701
19	.7258	.0321	-0.0861
20	.8387	.2222	.1282
21	.8871	.4162	.3394
22	.6452	.4902	.3716
23	.6129	.0082	-0.1213
24	.9516	.8063	.7637
25	.7258	.3895	.2777
26	.9516	.2556	.2030
27	.8548	.7851	.7054
28	.9516	.7639	.7205
29	.9839	.1772	.1469
30	.9677	.9636	.9339
31	.8710	.3117	.2280
32	.5806	.6271	.5070
33	1.0000	0.0	0.0
34	.9677	.6101	.5740
35	.9677	.0209	-0.0258
36	.6452	.3988	.2786
37	.9194	.1533	.0835
38	.9677	-0.1559	-0.2057
39	.9516	.5521	.5049
40	.9839	-0.1397	-0.1758
41	.6935	.3861	.2703
42	.8387	.3439	.2521
43	.8548	.3562	.2688
44	.3548	.5838	.4669
45	.7419	.2348	.1225

Table 8

Difficulty Levels, Biserial Correlations Between Test Items
and Total Test Scores and Biserial Correlations Corrected
for Part-Whole Overlap of Grade 2 Test Items for
Recognition Day II prior to Item Analysis

Item	Item Difficulty	Biserial Correlation	Corrected Biserial Correlation
1	.8387	.6371	.5633
2	.9677	1.4812	1.4640
3	.9839	-0.1197	-0.1502
4	.7419	.6407	.5511
5	.9839	.7851	.7686
6	.6774	.2796	.1776
7	.9032	.5969	.5389
8	.7419	.4829	.3909
9	.7581	.7718	.6864
10	.8871	.6037	.5411
11	.8710	.8209	.7574
12	.9677	.9262	.9004
13	.5968	.3946	.2891
14	.9677	.1188	.0805
15	.9516	.5454	.5051
16	.8871	.6227	.5604
17	.8548	.7043	.6351
18	.8710	.3708	.3003
19	.6774	.1680	.0642
20	.8548	.0175	-0.0623
21	.9194	.3018	.2446
22	.6452	.2828	.1784
23	.5645	.0767	-0.0349
24	.9839	.9660	.9524
25	.7581	.3635	.2717
26	.8548	.9918	.9271
27	.8387	1.0243	.9565
28	.9194	.7160	.6652
29	.9516	.1826	.1366
30	.9677	1.1785	1.1566
31	.8710	.5439	.4761
32	.7419	.5843	.4939
33	.9839	.3327	.3092
34	.9677	.9766	.9516
35	.9677	-0.1839	-0.2270
36	.6774	.3507	.2498
37	.9194	.4480	.3930
38	.9355	.4253	.3760
39	.9516	1.0533	1.0209
40	.9839	-0.0292	-0.0583
41	.6774	.5030	.4044
42	.7419	.5956	.5053
43	.8065	.0415	-0.0477
44	.2742	.4535	.3590
45	.7903	.2000	.1105

Table 9

Difficulty Levels, Biserial Correlations Between Test Items
and Total Test Scores and Biserial Correlations Corrected
for Part-Whole Overlap of Grade 4 Test Items for
Recall Day I prior to Item Analysis

Item	Item Difficulty	Biserial Correlation	Corrected Biserial Correlation
1	.6949	-0.0485	-0.1376
2	.6441	.0121	-0.0798
3	.8983	.5709	.5200
4	.2712	.2577	.1755
5	.9661	.5644	.5368
6	1.0000	0.0	0.0
7	.4068	.5433	.4558
8	.1186	.5429	.4877
9	.5085	.3638	.2724
10	.3898	.3173	.2276
11	.3051	.2800	.1950
12	0.0	0.0	0.0
13	.0169	.4214	.4020
14	.7966	.0288	-0.0482
15	.4068	.3259	.2357
16	.5254	.4090	.3182
17	.3220	.5400	.4571
18	.5932	.6188	.5323
19	.5932	.5770	.4900
20	.4068	.5600	.4728
21	.3898	.2581	.1677
22	.6780	.4189	.3344
23	.4576	.3464	.2551
24	.5763	.7419	.6564
25	.7627	.6362	.5625
26	.7288	.6527	.5756
27	.6441	.0991	.0084
28	.8644	.4818	.4221
29	.5085	.0303	-0.0654
30	.5254	.6371	.5493
31	.4576	.6653	.5781
32	.5763	.1952	.1027
33	.7288	.5254	.4467
34	.5254	.6371	.5493
35	.3390	.7370	.6554
36	.5593	.7080	.6216
37	.8814	.3891	.3319
38	.9153	.3493	.3002
39	.5593	.4778	.3884
40	0.0	0.0	0.0

Table 10

Difficulty Levels, Biserial Correlations Between Test Items
and Total Test Scores and Biserial Correlations Corrected
for Part-Whole Overlap of Grade 4 Test Items for
Recall Day II prior to Item Analysis

Item	Item Difficulty	Biserial Correlation	Corrected Biserial Correlation
1	.4915	.3049	.2148
2	.6102	.2879	.1999
3	.8644	.5705	.5135
4	.3051	.3025	.2199
5	.9322	.4017	.3596
6	1.0000	0.0	0.0
7	.4068	.4787	.3925
8	.1186	.2318	.1739
9	.6949	.1956	.1115
10	.7119	.3993	.3192
11	.6271	.4876	.4029
12	0.0	0.0	0.0
13	.0508	.4881	.4530
14	.8305	.2191	.1514
15	.4407	.2031	.1124
16	.5424	.7390	.6548
17	.4407	.4927	.4056
18	.5932	.6907	.6071
19	.5763	.5599	.4741
20	.5932	.6171	.5326
21	.2881	.1957	.1131
22	.5932	.3799	.2924
23	.7458	.5805	.5060
24	.7627	.4623	.3882
25	.7627	.6061	.5338
26	.7966	.4121	.3417
27	.6780	.4622	.3803
28	.8644	.2354	.1740
29	.3729	.1076	.0180
30	.6441	.6686	.5871
31	.5254	.5821	.4957
32	.6610	.1897	.1031
33	.8814	.3760	.3200
34	.6441	.6516	.5699
35	.4915	.7345	.6499
36	.5932	.6743	.5906
37	.8983	.0690	.0131
38	.9492	.8789	.8488
39	.6610	.4758	.3928
40	0.0	0.0	0.0

Table 11

Difficulty Levels, Biserial Correlations Between Test Items
and Total Test Scores and Biserial Correlations Corrected
for Part-Whole Overlap of Grade 4 Test Items for
Recognition Day I prior to Item Analysis

Item	Item Difficulty	Biserial Correlation	Corrected Biserial Correlation
1	.6949	.3160	.1818
2	.8136	.2288	.1144
3	.8644	.7247	.6369
4	.9831	.8675	.8489
5	.9661	.5588	.5166
6	.9661	.5588	.5166
7	.6949	.3013	.1668
8	.8983	.4202	.3373
9	.9492	.3080	.2478
10	.8475	.2566	.1521
11	1.0000	0.0	0.0
12	.4068	.2514	.1061
13	.6102	.4150	.2747
14	.8814	.5599	.4738
15	.6949	.1105	-0.0288
16	.5424	.6132	.4746
17	.7797	.4010	.2830
18	.6780	.4965	.3645
19	.6271	.3515	.2110
20	.7627	.4360	.3154
21	.4407	.0234	-0.1291
22	.8814	.0932	-0.0043
23	.9492	-0.0860	-0.1558
24	.7797	.2968	.1763
25	.9322	.6419	.5801
26	.9492	.0618	-0.0045
27	.9153	.3123	.2341
28	.9322	.2098	.1374
29	.6780	-0.0056	-0.1498
30	.8983	.8546	.7823
31	.8814	.3524	.2613
32	.6102	.3345	.1923
33	.9322	.8384	.7813
34	.8983	.5071	.4263
35	.8475	.1039	-0.0044
36	.7288	.5488	.4251
37	.9661	.8324	.7969
38	.9831	.6226	.5980
39	.7288	.5643	.4410
40	.4915	.1360	-0.0148

Table 12
 Difficulty Levels, Biserial Correlations Between Test Items
 and Total Test Scores and Biserial Correlations Corrected
 for Part-Whole Overlap of Grade 4 Test Items for
 Recognition Day II prior to Item Analysis

Item	Item Difficulty	Biserial Correlation	Corrected Biserial Correlation
1	.5254	.4395	.3155
2	.7458	.3043	.1944
3	.8644	.1240	.0351
4	1.0000	0.0	0.0
5	.9831	.1335	.1019
6	.9831	.1335	.1019
7	.6271	.4206	.3003
8	.8136	.3301	.2331
9	1.0000	0.0	0.0
10	.8475	.0814	-0.0130
11	1.0000	0.0	0.0
12	.3898	.1067	-0.0213
13	.5932	.7736	.6588
14	.8644	.2883	.2029
15	.6102	.2314	.1060
16	.6271	.4442	.3245
17	.8136	.4969	.4034
18	.6949	.6202	.5103
19	.5424	.4721	.3490
20	.7797	.5781	.4797
21	.4407	.2992	.1729
22	.6610	.3554	.2365
23	.9153	.5554	.4928
24	.8136	.3468	.2501
25	.9322	.7522	.7010
26	.9153	.3248	.2573
27	.9322	.2397	.1776
28	.9322	.3080	.2474
29	.5593	.1430	.0134
30	.8983	.6428	.5758
31	.8814	.4459	.3690
32	.6271	.3142	.1917
33	.9492	.1611	.1059
34	.8983	.5421	.4729
35	.8305	.2044	.1085
36	.7288	.6892	.5851
37	.9492	.8034	.7619
38	.9492	.9747	.9368
39	.7119	.5415	.4321
40	.4237	.1330	.0038

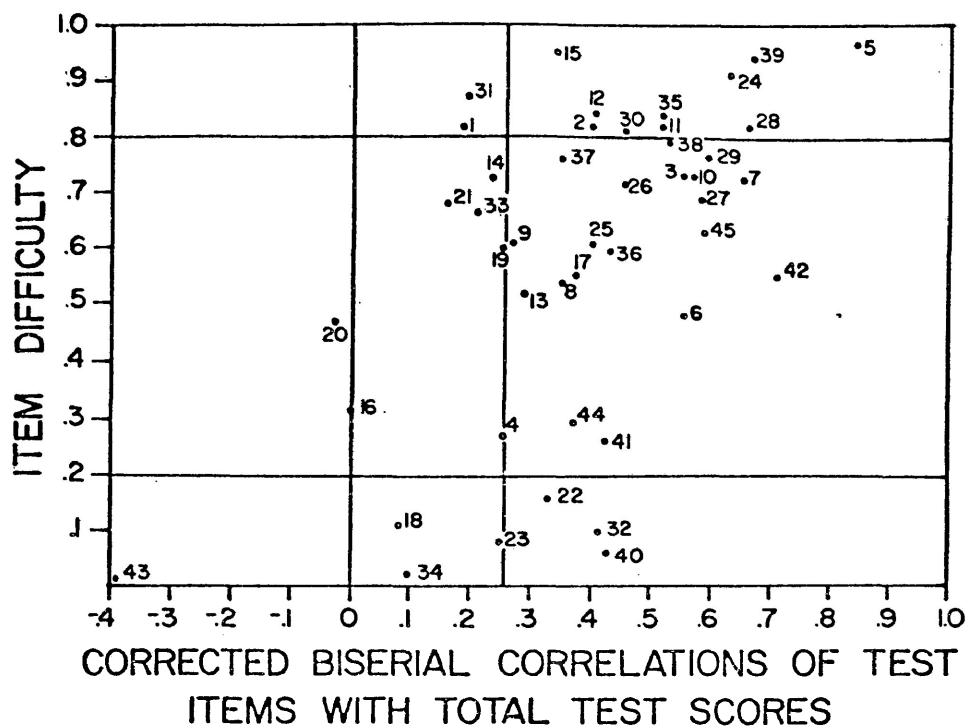


Figure 5. Item analysis of Grade 2 test items for recall day I.

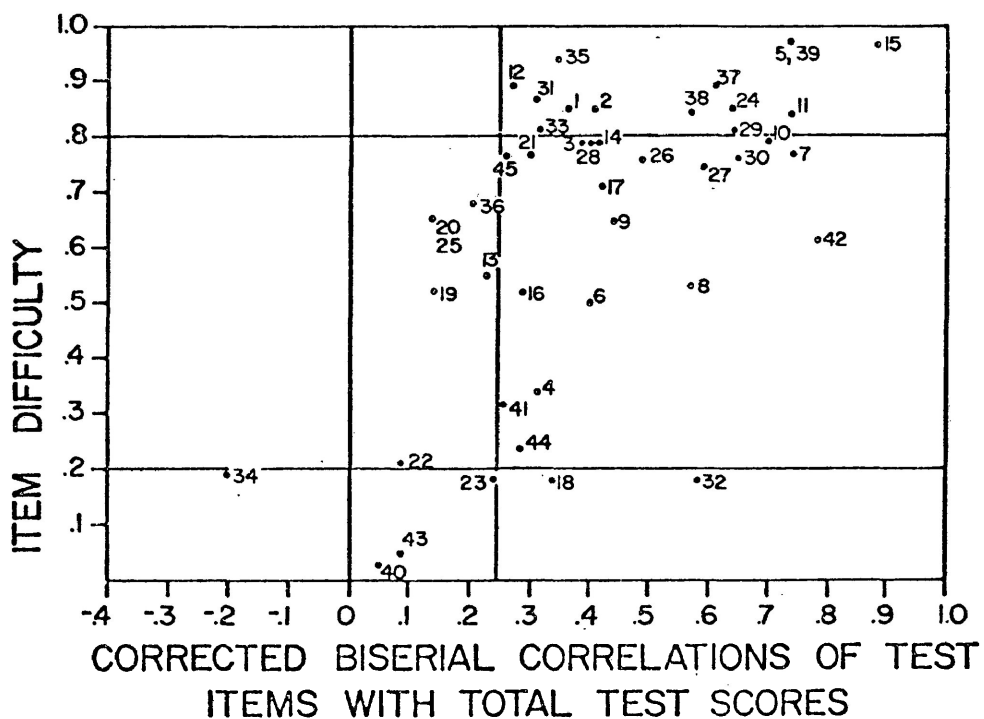


Figure 6. Item analysis of Grade 2 test items for recall day II. (Note that items 5 & 39 and items 20 & 25 share the same points.)

Note: Item difficulty refers to the mean score obtained by the 62 subjects on each test item. Numbers expressed within the figure refer to test item numbers.

For the recognition task on the Grade 2 Scale, the number of items was reduced from 45 to six. (see Figures 7 and 8) This had the effect of eliminating the present form of the Auditory Input Motor Output subtest. All of the other subtests were reduced to two items each.

(3) Grade 4 Items Item analysis of Grade 4 test items for Recall Day I and Day II are presented in Figure 9 and Figure 10, respectively. The number of items on the recall task for the Grade 4 Scale was reduced from 40 to 16. Only one of the 9 items on the Visual Input Motor Output subtest was retained. On the Auditory Input Motor Output subtest, five of the 11 items were retained; on the Visual Input Vocal Output subtest, six of the 11 items were retained and on the Auditory Input Vocal Output subtest four of the nine items were retained.

For the recognition task on the Grade 4 scale, the number of items was reduced from 40 to six items. (see Figures 11 and 12) All items in the Visual Input Motor Output and Visual Input Vocal Output subtests were rejected by the criteria. The Auditory Input Motor Output subtest was reduced from 11 to four items and the Auditory Input Vocal Output subtest was reduced from nine to two items.

Following Item Analysis

Means and standard deviations of the retained Grade 2 test items for recall and recognition tasks are shown in tables 13 and 14, respectively.

Means and standard deviations of the retained Grade 4 test items for recall and recognition tasks are provided in tables 15 and 16, respectively.

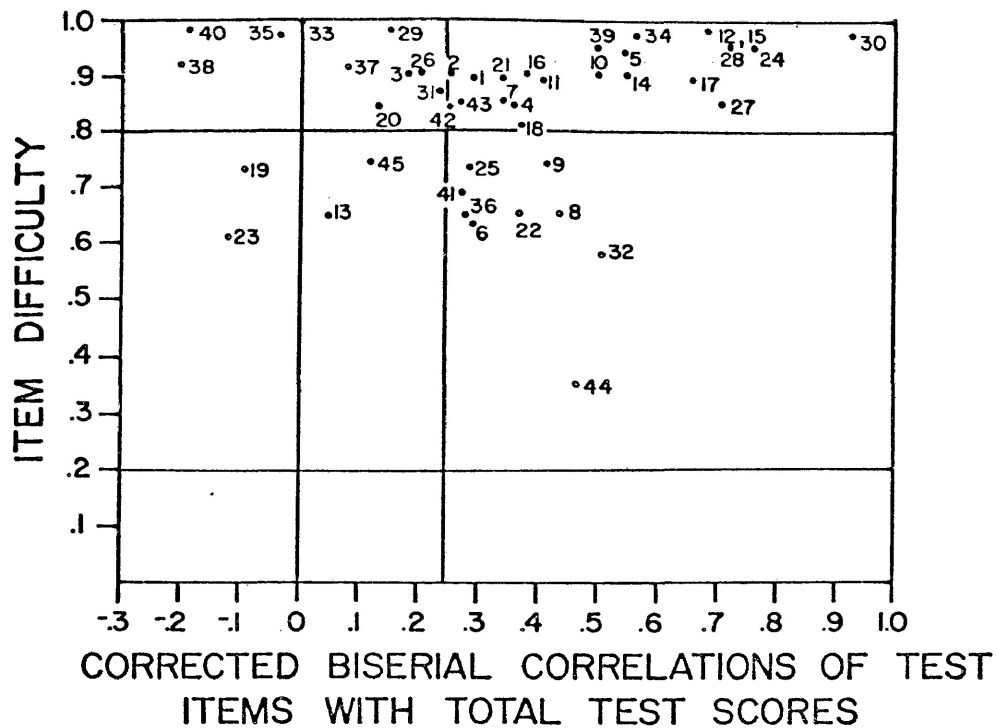


Figure 7. Item analysis of Grade 2 test items for recognition day I. (Note that items 12 & 15 share the same point.)

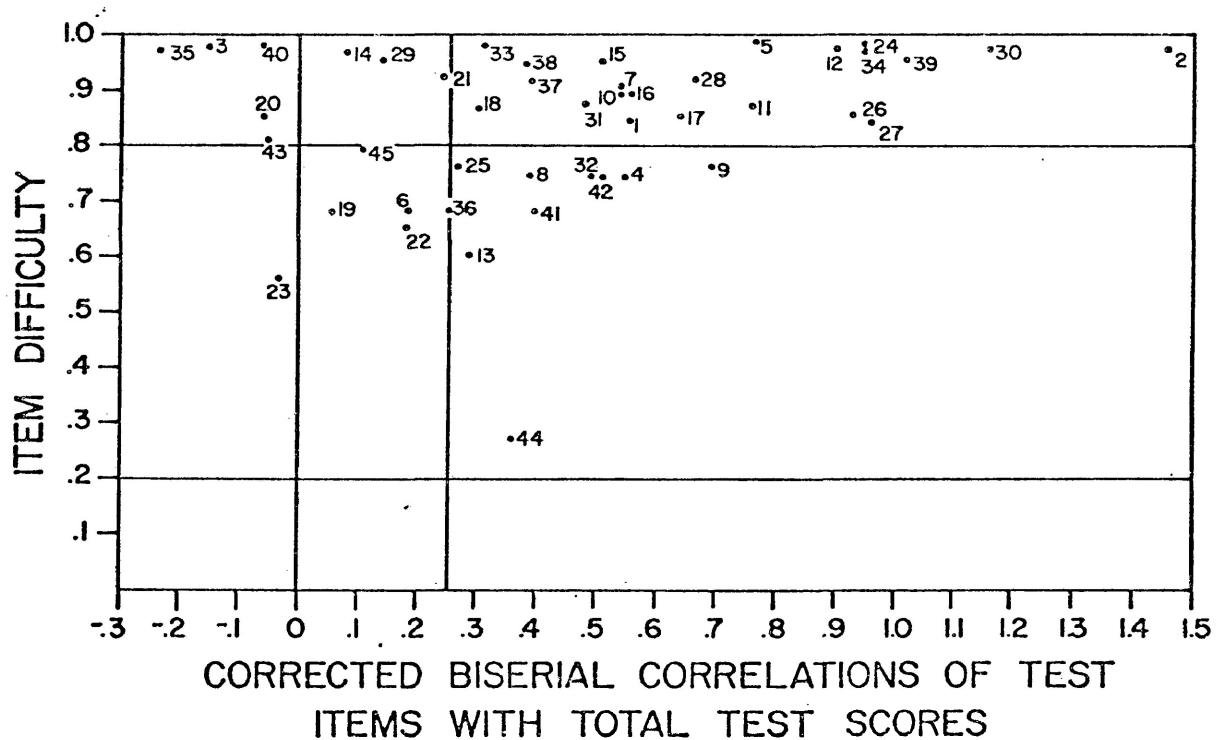


Figure 8. Item analysis of Grade 2 test items for recognition day II. (Note that items 2, 30 & 39 are beyond the theoretical maximum value for biserial correlations.)

Note: Item difficulty refers to the mean score obtained by the 62 subjects on each test item. Numbers expressed within the figure refer to test item numbers.

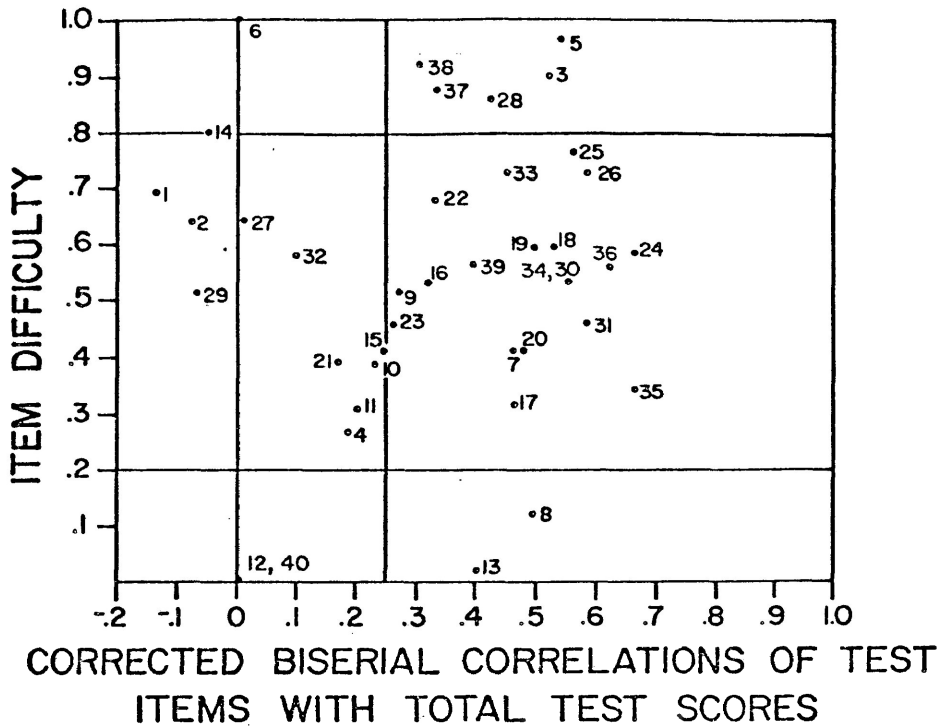


Figure 9. Item analysis of Grade 4 test items for recall day I. (Note that items 30 & 34 and items 12 & 40 share the same points.)

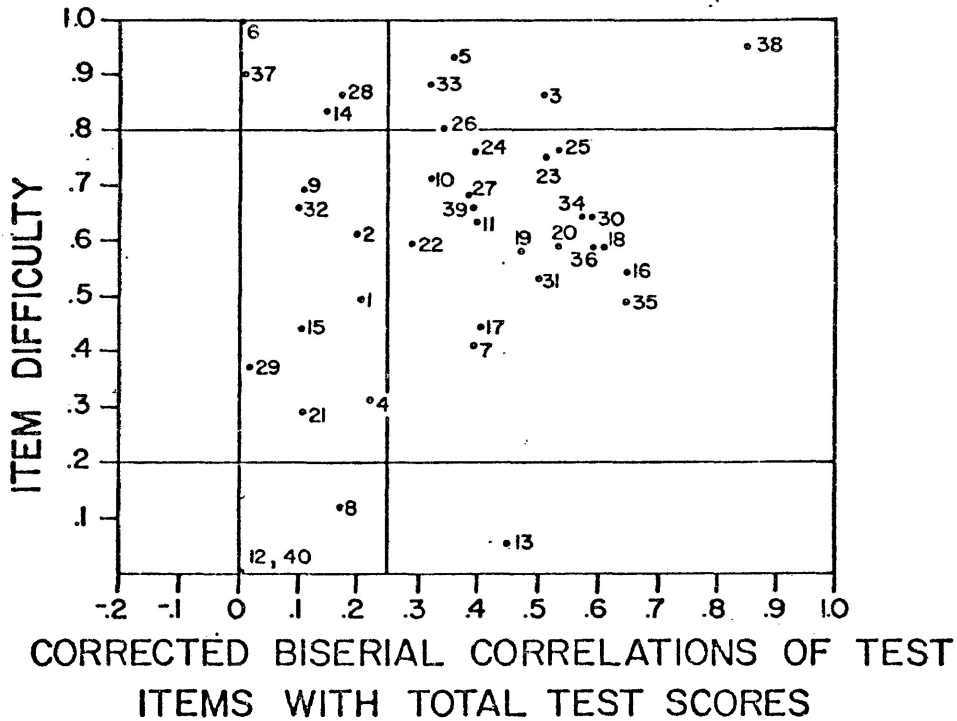


Figure 10. Item analysis of Grade 4 test items for recall day II. (Note that items 12 & 40 share the same points.)

Note: Item difficulty refers to the mean score obtained by the 59 subjects on each test item. Numbers expressed within the figure refer to test item numbers.

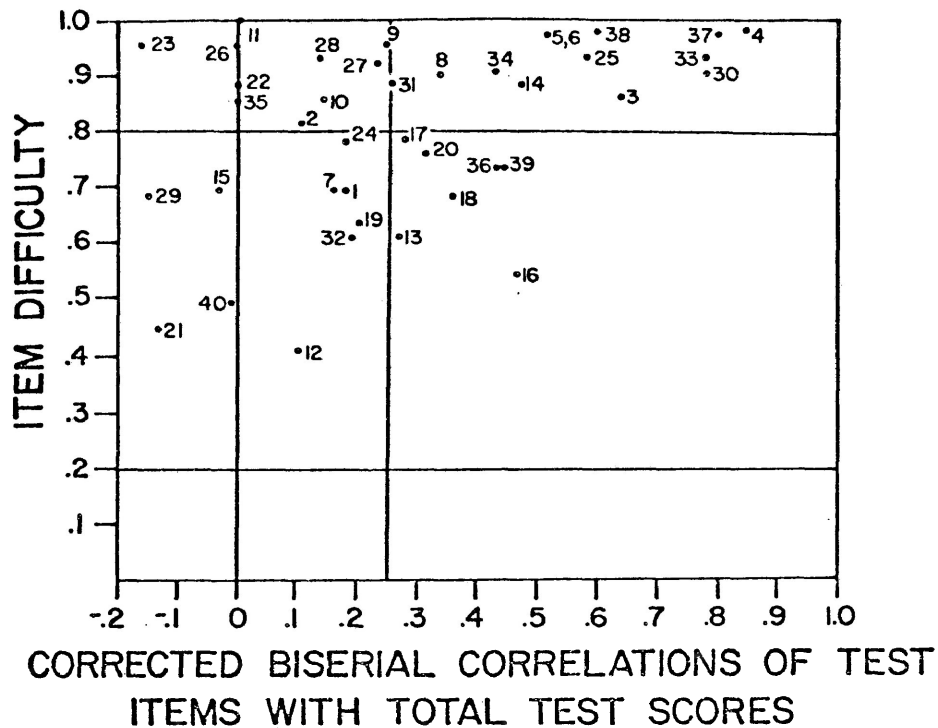


Figure 11. Item analysis of Grade 4 test items for recognition day I. (Note that items 5 & 6 share the same point.)

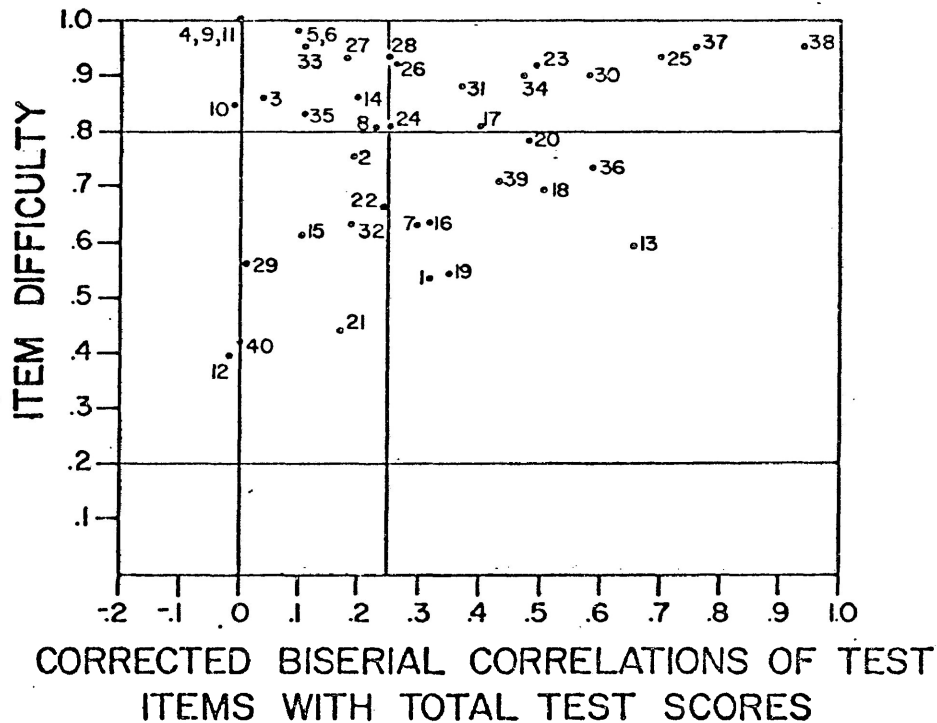


Figure 12. Item analysis of Grade 4 test items for recognition day II. (Note that items 5 & 6 and items 4, 9 & 11 share the same points.)

Note: Item difficulty refers to the mean score obtained by the 59 subjects on each test item. Numbers expressed within the figure refer to test item numbers.

Table 13
 Mean Performance Scores and Standard Deviations
 of Grade 2 Test Items on the Recall
 Task Following Item Analysis

Item ^a	Day I		Day II	
	\bar{X}	SD	\bar{X}	SD
3 1r	.726	.450	.790	.410
4 2r	.274	.450	.339	.477
6 3r	.484	.504	.500	.504
7 4r	.726	.450	.774	.422
8 5r	.548	.502	.532	.503
9 6r	.613	.491	.645	.482
10 7r	.726	.450	.790	.410
17 8r	.548	.502	.710	.458
26 9r	.710	.458	.758	.432
27 10r	.694	.465	.742	.441
41 11r	.258	.441	.323	.471
42 12r	.548	.502	.613	.491
44 13r	.290	.458	.242	.432
45 14r	.629	.487	.758	.432

^a Item numbers followed by "r" refer to the numbers assigned in the revised test form following item analysis. Item numbers not followed by "r" refer to the numbers used in the form of the test prior to item analysis.

Table 14
 Mean Performance Scores and Standard Deviations
 of Grade 2 Test Items on the Recognition
 Task Following Item Analysis

Item ^a	Day I		Day II	
	\bar{X}	SD	\bar{X}	SD
8 1r	.645	.482	.742	.441
9 2r	.742	.441	.758	.432
25 3r	.726	.450	.758	.432
32 4r	.581	.497	.742	.441
41 5r	.694	.465	.677	.471
44 6r	.355	.482	.274	.450

^a Item numbers followed by "r" refer to the numbers assigned in the revised test form following item analysis. Item numbers not followed by "r" refer to the numbers used in the form of the test prior to item analysis.

Table 15
 Mean Performance Scores and Standard Deviations
 of Grade 4 Test Items on the Recall
 Task Following Item Analysis

Item ^a	Day I		Day II	
	\bar{X}	SD	\bar{X}	SD
7 1r	.407	.495	.407	.495
16 2r	.525	.504	.542	.502
17 3r	.322	.471	.441	.501
18 4r	.593	.495	.593	.495
19 5r	.593	.495	.576	.498
20 6r	.407	.495	.593	.495
22 7r	.678	.471	.593	.495
23 8r	.458	.502	.746	.439
24 9r	.576	.498	.763	.429
25 10r	.763	.429	.763	.429
30 11r	.525	.504	.644	.483
31 12r	.458	.502	.525	.504
34 13r	.525	.504	.644	.483
35 14r	.339	.477	.492	.504
36 15r	.559	.501	.593	.495
39 16r	.559	.501	.661	.477

^a Item numbers followed by "r" refer to the numbers assigned in the revised test form following item analysis. Item numbers not followed by "r" refer to the numbers used in the form of the test prior to item analysis.

Table 16
 Mean Performance Scores and Standard Deviations
 of Grade 4 Test Items on the Recognition
 Task Following Item Analysis

Item ^a	Day I		Day II	
	\bar{X}	SD	\bar{X}	SD
13 1r	.610	.492	.593	.495
16 2r	.542	.502	.627	.488
18 3r	.678	.471	.695	.464
20 4r	.763	.429	.780	.418
36 5r	.729	.448	.729	.448
39 6r	.729	.448	.712	.457

^a Item numbers followed by "r" refer to the numbers assigned in the revised test form following item analysis. Item numbers not followed by "r" refer to the numbers used in the form of the test prior to item analysis.

Means and standard deviations of the subtests following item analysis are provided in Table 17 for the Grade 2 Scale and in Table 18 for the Grade 4 Scale.

Construct Validity

In an effort to obtain some validity for the Verbal Memory Scale, correlational analyses were performed on VMS scores and Wechsler Memory Scale scores.

Subjects with the highest five scores on the Auditory Input Vocal Output subtest of the Verbal Memory Scales, prior to item analysis, were labelled "High Group" and subjects with the lowest five scores on the same subtest were labelled "Low Group". The scores that determined the groups included their scores on Recall Day I and Day II as well as their scores on Recognition Day I and Day II on that particular subtest.

An analysis of variance between High and Low groups yielded a significant difference between the Grade 2 groups ($F(6,7) = 338.88, p < .001$) and the Grade 4 groups ($F(5,7) = 626.75, p < .001$).

The Logical Memory subtest of the WMS, which measures Immediate Recall using the same input and output, was administered to each of the Ss in the High and Low Groups for each grade level. Their scores are shown in Table 19 for the Grade 2 groups and Table 20 for the Grade 4 groups.

Correlations of the WMS-Logical Memory subtest scores with the VMS scores for both grade levels are given in Table 21. The WMS correlated with the VMS scores for Recall Day I at the .01 level of significance for the Low groups for both grade levels. The statistical test used was the Pearson Product Moment Correlation Coefficient.

Table 17
 Mean Performance Scores and Standard Deviations
 of Grade 2 Subtests as a Function of Condition
 Following Item Analysis

Subtests ^a	Day I		Day II	
	\bar{X}	SD	\bar{X}	SD
Recall Task				
Visual Input Motor Output (7)	4.097	1.705	4.371	1.767
Auditory Input Motor Output (1)	.548	.502	.710	.458
Visual Input Vocal Output (2)	1.403	.799	1.500	.763
Auditory Input Vocal Output (4)	1.726	1.270	1.935	1.114
Total (14)	7.774	3.164	8.516	2.952
Recognition Task				
Visual Input Motor Output (2)	1.387	.754	1.500	.671
Auditory Input Motor Output (0) ^b	-	-	-	-
Visual Input Vocal Output (2)	1.306	.667	1.500	.671
Auditory Input Vocal Output (2)	1.048	.734	.952	.734
Total (6)	3.742	1.436	3.952	1.408

^a Numbers in parentheses indicate the number of items retained following item analysis.

^b None of the test items in this subtest met the criteria applied in item analysis.

Table 18
 Mean Performance Scores and Standard Deviations
 of Grade 4 Subtests as a Function of Condition
 Following Item Analysis

Subtests ^a	Day I		Day II	
	\bar{X}	SD	\bar{X}	SD
Recall Task				
Visual Input Motor Output (1)	.407	.495	.407	.495
Auditory Input Motor Output (5)	2.441	1.454	2.746	1.549
Visual Input Vocal Output (6)	3.458	1.622	4.034	1.497
Auditory Input Vocal Output (4)	1.983	1.345	2.390	1.339
Total (16)	8.288	3.810	9.576	3.779
Recognition Task				
Visual Input Motor Output (0) ^b	-	-	-	-
Auditory Input Motor Output (4)	2.593	1.052	2.695	1.133
Visual Input Vocal Output (0) ^b	-	-	-	-
Auditory Input Vocal Output (2)	1.458	.678	1.441	.726
Total (6)	4.051	1.467	4.136	1.634

^a Numbers in parentheses indicate the number of items retained following item analysis.

^b None of the test items in this subtest met the criteria applied in item analysis.

Table 19

Verbal Memory Scale Scores and Wechsler Memory Scale Scores
of High and Low Groups for Grade 2

Verbal Memory Scale Following Item Analysis

Ss ^a	Auditory Input Vocal Output Subtest Total		Auditory Input Vocal Output Recall Day I		Recall Day I All Input Output Combinations	Wechsler Memory Scale Logical Memory Subtest
	Initial	Revised	Vocal Output	Recall Day I		
1	43	12		4	13	3.5
2	42	10		3	11	9.5
3	42	11		3	12	9.0
4	41	10		3	12	7.5
5	41	11		4	12	10.0
6	40	10		3	11	9.5
7	40	8		3	7	3.5
Group Means	41.29	10.28		3.29	11.14	7.5
High Group						
Low Group						
1	15	1		0	6	8.0
2	18	1		0	1	3.5
3	20	4		1	4	5.5
4	22	1		0	3	2.5
5	22	1		0	2	2.5
6	22	2		1	6	8.5
Group Means	19.83	1.67		.033	3.67	5.08
Maximum	48	12		4	14	23.0

^aSubjects with the highest and lowest five scores on the Auditory Input Vocal Output subtest of the initial Verbal Memory Scale constitute the High and Low Groups. Subjects are rank ordered for both extremes.

Table 20

Verbal Memory Scale Scores and Wechsler Memory Scale Scores
of High and Low Groups for Grade 4

Verbal Memory Scale Following Item Analysis

Ss ^a	Auditory Input Vocal Output		Auditory Input		Recall Day I		Wechsler Memory Scale Logical Memory Subtest
	Initial	Revised	Vocal Output	Recall Day I	All Input Output	Combinations	
1	34	12	4	4	11	11	11.0
2	33	12	4	4	15	15	16.0
3	33	11	3	3	12	12	10.0
4	33	12	4	4	14	14	9.0
5	33	12	4	4	12	12	11.0
Group Means	33.2	11.8	3.8	3.8	12.8	12.8	11.4
High Group							
Low Group							
1	13	2	0	0	3	3	6.0
2	15	2	1	1	2	2	7.5
3	15	1	0	0	4	4	9.0
4	16	0	0	0	6	6	9.5
5	17	4	1	1	7	7	10.0
6	17	4	1	1	5	5	8.5
7	17	1	0	0	2	2	5.0
Group Means	15.71	2	0.43	0.43	4.14	4.14	7.93
Maximum	36	12	4	4	16	16	23.0

^aSubjects with the highest and lowest five scores on the Auditory Input Vocal Output subtest of the initial Verbal Memory Scale constitute the High and Low Groups. Subjects are rank ordered for both extremes.

Table 21

Correlations of Wechsler Memory Scale - Logical Memory Subtest Scores
with Verbal Memory Scale Scores for High and Low Groups

Group ^a	WMS-Logical Memory/ Auditory Input- Vocal Output Subtest Total	WMS-Logical Memory/ Auditory Input- Vocal Output Recall Day I	WMS-Logical Memory/ Recall Day I All Input Output Combinations
Grade 2			
High (7)	0.1871	-0.1802	0.3604
Low (6)	0.2864	0.5517	0.9055 *
Grade 4			
High (5)	0.2897	0.2897	0.5293
Low (7)	0.2349	0.3716	0.8535 *

* $p < .01$

^a Subjects having the highest and lowest five scores on the Auditory Input Vocal Output Subtest of the initial Verbal Memory Scale constitute the High and Low Groups. Numbers in parentheses indicate the number of subjects.

SUGGESTIONS FOR FURTHER RESEARCH

The results of the item analyses and construct validity suggest that this research project has provided a credible foundation for further development of a comprehensive test for memory. Throughout this research, however, it has become apparent that test development inevitably requires a series of revisions and analyses. At this point, there are a number of directions that a follow-up study might take.

Initially, one could build up a greater item pool in an attempt to get some valid test items for the subtests that were completely eliminated because none of the items met the criteria for item analysis. This would mean that a larger test would be readministered to another subject pool. The new test would then be item analyzed and the irrelevant items discarded, although some of the easy items could be retained for rapport.

Alternatively, the format of the scale might be changed so that initially only one of the four input-output combinations is used. All of the test items could be administered to a new subject pool using only the selected input-output method. The test items would subsequently be item-analyzed and the discriminating items could then be equally distributed across the four input-output subtests. The test could then be administered to a new subject pool using all four subtests. This approach would provide a comparison of the difficulty of subtests.

Further research would be required to establish test - retest reliability for the revised test. Also, research is required to determine the validity of the revised scale, that is, to see how scores on the VMS correlate with school achievement. Future work should also include factor analysis to be sure the test, in fact, measures what it attempts to measure.

Another avenue of research to follow would be to administer the discriminating test items to groups of subjects using (1) only the aided recall

task), (2) only the recognition task, and (3) a free recall task. This would eliminate confounding results on day II and give a truer picture of each subject's ability on each task. It is suspected that the Ss' recall performance on day II was disproportionately high because the recognition task on day I narrowed the answers to three choices.

Future administrations of the scale could incorporate additional time intervals for delayed memory, i.e., after three days, after seven days, after 21 days. The size of the subject pool should be increased for establishing norms and the scale could be expanded across grade levels. Furthermore, the format for this scale could be a useful model for the development of other scales to be incorporated into a comprehensive test for memory, for example, a nonverbal scale for numbers.

In summary, the VMS is an attempt to measure verbal retention ability relevant to school learning using recall and recognition tasks for long-term as well as immediate memory. The first stages of the development of the VMS have been completed. Although at this stage of its development, item analysis had the effect of eliminating or greatly reducing the items of some subtests, correlational analyses with the Wechsler Memory Scale - Logical Memory subtest indicate that there is some validity to the VMS.

APPENDICES

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VERBAL MEMORY SCALE - MANUAL
SECTION I GROUP ADMINISTRATION

PART I

Give a Section I Booklet (Part I and II) to all students and ask them to put their full name, age, birth date, and grade level in the appropriate places on the front page.

"Do not turn any pages until you are told to do so."

Example:

"Turn to page 1 and look at the instructions at the top of the page while I read them out loud. Read this story about...(Muff for level 2, or The Boat for level 4) to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later."

-pause-

"Has everyone read the story?" *Wait until everyone has finished.*

"Turn to page 3 and look at the instructions at the top of the page while I read them out loud. Print the correct answer after each question and then turn the page. Do not look back at the story."

-pause-

"Has everyone answered all the questions?" *Wait until everyone has finished.*

"Turn to page 5 and look at the instructions at the top of the page while I read them out loud. Here are more questions but this time, after each question, there are three answers. See if you can pick the right answer. Circle the answer that belongs in the story. Do this for all of the questions and then turn the page and wait for further instructions. There is only one right answer for each question."

-pause-

"Has everyone answered all the questions?" *Wait until everyone has finished.*

"Do not turn the page until you are told to do so. On the next few pages of this booklet there are more stories and questions like these. Each time, I'd like you to read the story to yourself and then go right on to the questions. Work quietly on your own. Work

on one page at a time and then turn the page. Once you turn the page do not turn back. When you come to the page that says "stop", please put your pencils down, do not turn any more pages, and wait quietly for the others to finish. Are there any questions? Go ahead."

Level 2 Stories:

- 1) The Hen
- 2) The Animals' Home

Level 4 Stories:

- 1) Camping
- 2) The Museum

PART II

"I am going to read a story out loud to you and then I will ask you questions about it. Be sure to listen carefully so that you can answer the questions."

Example:

"The first story is about... (Pep for level 2, or Shoes for level 4)."

Pep

The policeman has a big brown horse named Pep. The children like to pat him. They give him apples and sugar to eat. Pep can do two tricks. He can shake hands. When the policeman says, "Count three", Pep paws the ground three times with his foot.

Shoes

One morning Jack woke up late. He had to dress in a hurry. He put on one of his black shoes, but he could not find the other. He could find only an old brown shoe. He put it on and ran to school. He got there just as the bell rang.

"Now I have some questions for you to answer. Turn to page 14 and look at the instructions while I read them out loud. Print the correct answer after each question and then turn the page."

-pause-

"Has everyone answered all the questions?" *Wait until everyone has finished.*

"Turn to page 16 and look at the instructions at the top of the page while I read them out loud. Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page and wait for further instructions."

-pause-

"Has everyone answered all the questions?" *Wait until everyone has finished.*

"Do not turn the page until you are told to do so. I have some more stories to read to you and for each story I have some questions for you to answer. Each time, I'd like you to listen carefully to the story while I read it aloud and then go right on to the questions. Work quietly on your own. When you come to the page that says "stop", please put your pencils down, do not turn any more pages, and wait quietly for the others to finish. Are there any questions? O.K., listen while I read the next story."

- 1) "This is a story about...(The Cat and the Dog for level 2, or The Market for level 4)."

The Cat and the Dog

The Market

A boy had a big gray cat. He was going to give her some milk. She did not come when he called. He saw her up in a tree looking down at a big dog. The boy sent the dog away. Then the cat jumped down from the tree and came for her milk.

On the south eastern shore of Australia stands the big, bustling city of Sydney. And almost in the middle of the city is a fruit and vegetable market - a vast, dusty, lofty, noisy building, jammed and packed with food. There are peas and pumpkins, and beans and bananas, and apples and apricots, nailed into cases or sewn into sacks, or just pushed and piled into huge heaps.

"Do the questions on the next two pages in your booklets. When you come to the page that says "stop", please put your pencils down, do not turn any more pages, and wait for further instructions."

-pause-

"Has everyone answered all the questions?" *Wait until everyone has finished.*

- 2) "This is a story about (The Fine Old Woman for level 2, or Peter Cooper's Engine for level 4)."

The Fine Old Woman

Peter Cooper's Engine

Mrs. Park lived all by herself. Her house was a long way back from the street, and around it was a garden. All through the warm days Mrs. Park worked with her flowers. She was a fine old lady, and she took candies and other good things to the children next door.

Peter Cooper built one of the first railroad engines in the United States. It was used to pull cars from a city to a town thirteen miles away. No one thought that the engine could do this. In August in the year 1830, it was hooked to a car packed full of people. It went at a speed of eighteen miles an hour and made the trip in forty-eight minutes. People were surprised that anyone could breathe while going so fast.

"Do the questions on the next two pages in your booklets. When you come to the page that says "stop", please put your pencils down, do not turn any more pages, and wait for the others to finish."
Collect Section I Booklets for Part I and II.

PART III (24 hours later)

Give a Section I Booklet (Part III) to all students and ask them to put their full name, age, birth date, and grade level in the appropriate places on the front page.

"Do not turn any pages until you are told to do so."

"Once again I'd like you to answer some questions on the stories we read yesterday. I'd like you to work quietly on these questions and raise your hand when you have finished. Do not worry if you cannot answer all of the questions, just try your best. O.K., turn to page 1 and begin. Please work quietly on your own."

As the students indicate that they have finished, collect Section I Booklets (Part III).

SECTION I BOOKLET

(Part I & II)

- Level 2 -

Name: _____
Age: _____
Birth Date: _____
Grade: _____

PART I

-1-

Read this story about Muff to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later.

Muff

Muff is a little yellow kitten.

She drinks milk.

She sleeps on a chair.

She does not like to get wet.

Turn the page.

STOP

Do not turn the page
until you are told to do so

-3-

Print the correct answer after each question and then turn the page. Do not look back at the story.

Muff

- 1) What colour was the kitten? _____
- 2) What does she drink? _____
- 3) Where does she sleep? _____
- 4) What does she not like? _____

Turn the page.

STOP

Do not turn the page
until you are told to do so

-5-

Here are more questions but this time, after each question, there are three answers. See if you can pick the right answer. Circle the answer that belongs in the story. Do this for all of the questions and then turn the page and wait for further instructions. There is only one right answer for each question.

Muff

- 1) What colour was the kitten? a) white b) yellow c) black
- 2) What does she drink? a) water b) cream c) milk
- 3) Where does she sleep? a) on a chair b) in a basket c) on a bed
- 4) What does she not like? a) to get lost b) to get wet c) dogs

Turn the page.

STOP

Wait for further instructions

Do not turn the page
until you are told to do so

-7-

Read this story about The Hen to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later.

The Hen

A hen had six little yellow chickens. One morning she took them for a walk. They looked for something to eat. They found some seeds and sand. A dog came to play with them. The hen did not like the dog. She flew at the dog and made him run away.

Turn the page.

Print the correct answer after each question and then turn the page. Do not look back at the story. 62

The Hen

- 1) How many little chickens did the hen have? _____
- 2) What did she do with them one morning? _____
- 3) What did they look for? _____
- 4) What did they find? _____
- 5) Who came to play with them? _____
- 6) What did the hen do? _____
- 7) What did he do then? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

The Hen

- 1) How many little chickens did the hen have? a) 2 b) 4 c) 6
- 2) What did she do with them one morning? a) She took them for a bath.
b) She took them for a swim. c) She took them for a walk.
- 3) What did they look for? a) something to eat b) something to play with
c) someplace to swim
- 4) What did they find? a) sand and water b) seeds and sand c) berries and seeds
- 5) Who came to play with them? a) a frog b) a bird c) a dog
- 6) What did she do? a) flew away from him b) chased him c) flew at him
- 7) What did he do then? a) ran away b) barked at the hen c) chased the hen

Turn the page.

Read this story about The Animals' Home to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later.

The Animals' Home

One warm sunny morning all the little animals in the garden were up and about. The rabbits and grasshoppers were hopping about, and the bees and the birds were flying about. The garden was their home, and they liked living there. No boys and girls were around to scare them or try to catch them.

Turn the page.

Print the correct answer after each question and then turn the page. Do not look back at the story.

The Animals' Home

- 1) What was hopping about? _____

- 2) What was flying about? _____

- 3) Where was their home? _____

- 4) Who wasn't there to scare them or try to catch them? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

The Animals' Home

- 1) What was hopping about? a) grasshoppers and frogs b) rabbits and toads
c) rabbits and grasshoppers
- 2) What was flying about? a) butterflies and birds b) bees and bats
c) bees and birds
- 3) Where was their home? a) in the garden b) in the woods c) on the farm
- 4) Who wasn't there to scare them or try to catch them? a) dogs and cats
b) dogs and boys c) boys and girls

Turn the page.

STOP

Wait for further instructions

Do not turn the page

until you are told to do so

Print the correct answer after each question and then turn the page.

Pep

- 1) Who is Pep? _____
- 2) Who does he belong to? _____
- 3) What do the children like to do? _____
- 4) What do they give him to eat? _____
- 5) How many tricks can he do? _____
- 6) What does Pep do when the policeman says "Count three"? _____

- 7) What else can Pep do? _____

Turn the page.

STOP

Do not turn the page
until you are told to do so

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page and wait for further instructions.

Pep

- 1) Who is Pep? a) a dog b) a horse c) a cat
- 2) Who does he belong to? a) a boy b) the children c) a policeman
- 3) What do the children like to do? a) ride him b) talk to him c) pat him
- 4) What do they give him to eat? a) sugar and candy b) apples and straw
c) apples and sugar
- 5) How many tricks can he do? a) 2 b) 3 c) 4
- 6) What does Pep do when the policeman says "Count three"? a) He runs fast.
b) He paws the ground three times. c) He nods his head three times.
- 7) What else can Pep do? a) shake hands b) dance c) walk backwards

Turn the page.

STOP

Wait for further instructions

Do not turn the page

until you are told to do so

Print the correct answer after each question and then turn the page.

The Cat and The Dog

- 1) What did the boy have? _____
- 2) What colour was it? _____
- 3) What happened when he called to her? _____

- 4) Where was she? _____
- 5) What was she doing? _____
- 6) What did the boy do then? _____
- 7) What happened next? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page and wait for further instructions.

The Cat and the Dog

- 1) What did the boy have? a) a cat b) a dog c) a rabbit
- 2) What colour was it? a) black b) white c) gray
- 3) What happened when he called to her? a) She ran to him. b) She did not come.
c) She ran away.
- 4) Where was she? a) up on a chair b) up on a fence c) up in a tree
- 5) What was she doing? a) sleeping b) looking down at a dog
c) watching the children play
- 6) What did the boy do then? a) call her again b) go play with the children
c) send the dog away
- 7) What happened next? a) She jumped down and ran away.
b) She woke up and came for her milk. c) She jumped down and came for her milk.

Turn the page.

STOP

Wait for further instructions

Do not turn the page

until you are told to do so

-21-

Print the correct answer after each question and then turn the page.

The Fine Old Woman

- 1) What was the woman's name? _____
- 2) Who did she live with? _____
- 3) What was around her house? _____
- 4) What did she do all through the warm days? _____

- 5) What did she take to the children next door? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page

The Fine Old Woman

- 1) What was the woman's name? a) Mrs. Park b) Mrs. Green c) Mrs. Parker
- 2) Who did she live with? a) her husband b) her cat c) by herself
- 3) What was around her house? a) a beautiful lawn b) a white fence
c) a garden
- 4) What did she do all through the warm days? a) She worked with her flowers.
b) She sat out on her porch. c) She went next door to see the children.
- 5) What did she take to the children next door? a) cakes and cookies
b) candies and other good things c) cookies and candies

Turn the page.

STOP

Please put your pencil down and
wait quietly for the others to finish

SECTION I BOOKLET

(Part III)

- Level 2 -

Name: _____

Age: _____

Birth Date: _____

Grade: _____

PART III

-1-

Print the correct answer after each question and then turn the page.

Muff

- 1) What colour was the kitten? _____
- 2) What does she drink? _____
- 3) Where does she sleep? _____
- 4) What does she not like? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

Muff

- 1) What colour was the kitten? a) white b) yellow c) black
- 2) What does she drink? a) water b) cream c) milk
- 3) Where does she sleep? a) on a chair b) in a basket c) on a bed
- 4) What does she not like? a) to get lost b) to get wet c) dogs

Turn the page.

Print the correct answer after each question and then turn the page.

The Hen

- 1) How many little chickens did the hen have? _____
- 2) What did she do with them one morning? _____
- 3) What did they look for? _____
- 4) What did they find? _____
- 5) Who came to play with them? _____
- 6) What did she do? _____
- 7) What did he do then? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

The Hen

- 1) How many little chickens did the hen have? a) 2 b) 4 c) 6
- 2) What did she do with them one morning? a) She took them for a bath.
b) She took them for a swim. c) She took them for a walk.
- 3) What did they look for? a) something to eat b) something to play with
c) someplace to swim
- 4) What did they find? a) sand and water b) seeds and sand c) berries and seeds
- 5) Who came to play with them? a) a frog b) a bird c) a dog
- 6) What did she do? a) flew away from him b) chased him c) flew at him
- 7) What did he do then? a) ran away b) barked at the hen c) chased the hen

Turn the page.

Print the correct answer after each question and then turn the page.

The Animals' Home

- 1) What was hopping about? _____

- 2) What was flying about? _____

- 3) Where was their home? _____

- 4) Who wasn't there to scare them or try to catch them? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

The Animals' Home

- 1) What was hopping about? a) grasshoppers and frogs b) rabbits and toads
c) rabbits and grasshoppers
- 2) What was flying about? a) butterflies and birds b) bees and bats
c) bees and birds
- 3) Where was their home? a) in the garden b) in the woods c) on the farm
- 4) Who wasn't there to scare them or try to catch them? a) dogs and cats
b) dogs and boys c) boys and girls

Turn the page.

Print the correct answer after each question and then turn the page.

Pep

- 1) Who is Pep? _____
- 2) Who does he belong to? _____
- 3) What do the children like to do? _____
- 4) What do they give him to eat? _____
- 5) How many tricks can he do? _____
- 6) What does Pep do when the policeman says "Count three"? _____

- 7) What else can Pep do? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

Pep

- 1) Who is Pep? a) a dog b) a horse c) a cat
- 2) Who does he belong to? a) a boy b) the children c) a policeman
- 3) What do the children like to do? a) ride him b) talk to him c) pat him
- 4) What do they give him to eat? a) sugar and candy b) apples and straw
c) apples and sugar
- 5) How many tricks can he do? a) 2 b) 3 c) 4
- 6) What does Pep do when the policeman says "Count three"? a) He runs fast.
b) He paws the ground three times. c) He nods his head three times.
- 7) What else can Pep do? a) shake hands b) dance c) walk backwards

Turn the page.

Print the correct answer after each question and then turn the page.

The Cat and The Dog

- 1) What did the boy have? _____
- 2) What colour was it? _____
- 3) What happened when he called to her? _____

- 4) Where was she? _____
- 5) What was she doing? _____
- 6) What did the boy do then? _____
- 7) What happened next? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

The Cat and the Dog

- 1) What did the boy have? a) a cat b) a dog c) a rabbit
- 2) What colour was it? a) black b) white c) gray
- 3) What happened when he called to her? a) She ran to him. b) She did not come. c) She ran away.
- 4) Where was she? a) up on a chair b) up on a fence c) up in a tree
- 5) What was she doing? a) sleeping b) looking down at a dog c) watching the children play
- 6) What did the boy do then? a) call her again b) go play with the children c) send the dog away
- 7) What happened next? a) She jumped down and ran away. b) She woke up and came for her milk. c) She jumped down and came for her milk.

Turn the page.

Print the correct answer after each question and then turn the page.

The Fine Old Woman

- 1) What was the woman's name? _____
- 2) Who did she live with? _____
- 3) What was around her house? _____
- 4) What did she do all through the warm days? _____

- 5) What did she take to the children next door? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

The Fine Old Woman

- 1) What was the woman's name? a) Mrs. Park b) Mrs. Green c) Mrs. Parker
- 2) Who did she live with? a) her husband b) her cat c) by herself
- 3) What was around her house? a) a beautiful lawn b) a white fence
c) a garden
- 4) What did she do all through the warm days? a) She worked with her flowers.
b) She sat out on her porch. c) She went next door to see the children.
- 5) What did she take to the children next door? a) cakes and cookies
b) candies and other good things c) cookies and candies

Turn the page.

-13-

STOP

PLEASE RAISE YOUR HAND

SECTION I BOOKLET

(Part I & II)

- Level 4 -

Name: _____

Age: _____

Birth Date: _____

Grade: _____

PART I

-1-

Read this story about The Boat to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later.

The Boat

Henry goes to a large lake in the summer. Last summer, a motorboat sank near his house. The boat had ten men in it. The man who was running the boat brought it very close to the shore when the water was low. He hit a big rock under water. It made a hole in the bottom of the boat. The water came in very fast. All of the men swam to shore.

Turn the page.

STOP

Do not turn the page
until you are told to do so

-3-

Print the correct answer after each question and then turn the page. Do not look back at the story.

The Boat

- 1) Where does Henry go in the summer? _____
- 2) What happened near his house? _____
- 3) What kind of boat was it? _____
- 4) How many men were on the boat? _____
- 5) What happened to the men on the boat? _____

Turn the page.

STOP

Do not turn the page
until you are told to do so

-5-

Here are more questions but this time, after each question, there are three answers. See if you can pick the right answer. Circle the answer that belongs in the story. Do this for all the questions and then turn the page and wait for further instructions. There is only one right answer for each question.

The Boat

- 1) Where does Henry go in the summer? a) to a large lake b) boating
c) to a summer camp
- 2) What happened near his house last summer? a) there was a fire b) a boat sank
c) a motor sank
- 3) What kind of boat was it? a) a sailboat b) a houseboat c) a motorboat
- 4) How many men were on the boat? a) 4 b) 6 c) 10
- 5) What happened to all of the men on the boat? a) They yelled for help.
b) They swam to shore. c) They jumped off.

Turn the page.

STOP

Wait for further instructions

Do not turn the page

until you are told to do so

-7-

Read this story about Camping to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later.

Camping

Six boys put up a tent by the side of the river. They took things to eat with them. When the sun went down, they went into the tent to sleep. In the night, a cow came and began to eat grass around the tent. The boys were afraid. They thought it was a bear.

Turn the page.

Print the correct answer after each question and then turn the page. Do not look back at the story.

Camping

- 1) How many boys went camping? _____
- 2) Where did they put up their tent? _____
- 3) What did they take with them besides their tent? _____

- 4) What did the boys do when the sun went down? _____

- 5) What came around their tent in the night? _____
- 6) What did the boys think it was? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

Camping

- 1) How many boys went camping? a) 2 b) 4 c) 6
- 2) They put up their tent where? a) by the big tree b) in the woods
c) beside the river.
- 3) What did they take with them besides their tent? a) sleeping bags
b) things to eat c) things to drink
- 4) What did they do when the sun went down? a) went into their tent to sleep
b) played outside in the dark c) lit a candle so they could see
- 5) What came around their tent in the night? a) a dog b) a bear c) a cow
- 6) What did the boys think it was? a) a dog b) a wolf c) a bear

Turn the page.

Read this story about The Museum to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later.

The Museum

There is work going on in a museum all the time. Museum staff work at finding out more about collections the museum already has. They work with the pieces of pottery, and bones, and objects that are sent to the museum for study. They find out as much as they can about these objects and plan and organize the displays you see.

Turn the page.

Print the correct answer after each question and then turn the page. Do not look back at the story.

The Museum

1) The museum staff work at finding out more about what? _____

2) What do they work with? _____

3) Once they find out as much as they can, what do they do? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

The Museum

- 1) The museum staff work at finding out more about what?
a) works of art
b) rare objects of interest
c) collections the museum already has
- 2) What do they work with?
a) pieces of pottery, and bones, and objects that are sent to the museum for study
b) antiques, pieces of pottery and art objects that are very rare.
c) pots and antiques and objects that are sent to the museum for study.
- 3) Once they find out as much as they can, what do they do?
a) dust the articles and store them in closets.
b) dust them and sell them to people who visit the museum.
c) plan and organize the displays you see.

Turn the page.

-13-

STOP

Wait for further instructions

Do not turn the page

until you are told to do so

Print the correct answer after each question and then turn the page.

Shoes

- 1) What did Jack do one morning? _____
 - 2) What did he have to do then? _____
 - 3) What colour was the first shoe he put on? _____
 - 4) Why didn't he put the other one on? _____
 - 5) What colour was the only one he could find? _____
 - 6) So, what did he do? _____
-

Turn the page.

-15-

STOP

Do not turn the page
until you are told to do so

-10-

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page and wait for further instructions. 85

Shoes

- 1) What did Jack do one morning? a) He woke up late. b) He woke up early.
c) He forgot to brush his teeth.
- 2) What did he have to do then? a) eat his breakfast b) dress in a hurry
c) brush his teeth
- 3) What colour was the shoe he put on? a) black b) blue c) brown
- 4) Why didn't he put the other one on? a) It was torn. b) He took another one
by mistake. c) He could not find it.
- 5) What colour was the only one he could find? a) black b) blue c) brown
- 6) So, what did he do? a) He ate his breakfast in a hurry and ran to the bus stop.
b) He put it on and ran to school. c) He wore his slippers and ran to school.

Turn the page.

-17-

STOP

Wait for further instructions

Do not turn the page
until you are told to do so

The Market

- 1) What city is on the south eastern shore of Australia? _____

- 2) What kind of market is almost in the middle of the city? _____

- 3) What kind of building is the market in? _____

- 4) What is nailed into cases or sewn into sacks, or just pushed and piled into huge heaps? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page and wait for further instructions.

The Market

- 1) What city is on the south eastern shore of Australia? a) Market
b) Sydney c) Austria
- 2) What kind of market is almost in the middle of the city?
a) a craft market b) a fish market c) a fruit and vegetable market
- 3) What kind of building is the market in?
a) a vast, dirty, lofty, empty, building b) a dingy, dusty, crowded, noisy building
c) a vast, dusty, lofty, noisy building
- 4) What is nailed into cases or sewn into sacks, or just pushed and piled into huge heaps? a) peas and pumpkins, and beans and bananas, and apples and apricots
b) peas and potatoes, and beans and turnips, and apples and oranges
c) carrots and pumpkins, and lemons and bananas, and peaches and apricots

Turn the page.

STOP

Wait for further instructions

Do not turn the page

until you are told to do so

-21-

Print the correct answer after each question and then turn the page.

Peter Cooper's Engine

- 1) What did Peter Cooper build? _____
- 2) What was it used for? _____

- 3) How far away was the town? _____
- 4) In August in the year 1830, what was the engine hooked to? _____

- 5) How fast did it go? _____
- 6) How long did the trip take? _____
- 7) What surprised the people? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

Peter Cooper's Engine

- 1) What did Peter Cooper build? a) an airplane b) a railroad engine c) a train
- 2) What was it used for? a) to take people from a city to a town
b) to take animals from the country to the city c) to pull cars from a city to a town
- 3) How far away was the town? a) 18 miles b) 13 miles c) 23 miles
- 4) In August in the year 1830, what was the engine hooked to? a) a car full of cattle
b) a car packed full of people c) a car packed with cargo
- 5) How fast did it go? a) 18 miles an hour b) 48 miles an hour c) 13 miles an hour
- 6) How long did the trip take? a) 18 minutes b) 45 minutes c) 48 minutes
- 7) What surprised the people? a) that anyone could breathe while going so fast
b) that anything could move so fast c) that it could pull so much weight

Turn the page.

-23-

STOP

Please put your pencil down and
wait quietly for the others to finish

SECTION I BOOKLET

(Part III)

- Level 4 -

Name: _____

Age: _____

Birth Date: _____

Grade: _____

PART III

-1-

Print the correct answer after each question and then turn the page.

The Boat

- 1) Where does Henry go in the summer? _____
- 2) What happened near his house? _____
- 3) What kind of boat was it? _____

- 4) How many men were on the boat? _____
- 5) What happened to the men on the boat? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

The Boat

- 1) Where does Henry go in the summer? a) to a large lake b) boating
c) to a summer camp
- 2) What happened near his house last summer? a) there was a fire b) a boat sank
c) a motor sank
- 3) What kind of boat was it? a) a sailboat b) a houseboat c) a motorboat
- 4) How many men were on the boat? a) 4 b) 6 c) 10
- 5) What happened to all of the men on the boat? a) They yelled for help.
b) They swam to shore. c) They jumped off.

Turn the page.

Print the correct answer after each question and then turn the page. Do not look back at the story.

Camping

- 1) How many boys went camping? _____
- 2) Where did they put up their tent? _____
- 3) What did they take with them besides their tent? _____

- 4) What did the boys do when the sun went down? _____

- 5) What came around their tent in the night? _____
- 6) What did the boys think it was? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

-4-

Camping

- 1) How many boys went camping? a) 2 b) 4 c) 6
- 2) They put up their tent where? a) by the big tree b) in the woods
c) beside the river.
- 3) What did they take with them besides their tent? a) sleeping bags
b) things to eat c) things to drink
- 4) What did they do when the sun went down? a) went into their tent to sleep
b) played outside in the dark c) lit a candle so they could see
- 5) What came around their tent in the night? a) a dog b) a bear c) a cow
- 6) What did the boys think it was? a) a dog b) a wolf c) a bear

Turn the page.

-5-

Print the correct answer after each question and then turn the page. Do not look back at the story.

The Museum

- 1) The museum staff work at finding out more about what? _____

- 2) What do they work with? _____

- 3) Once they find out as much as they can, what do they do? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

The Museum

- 1) The museum staff work at finding out more about what?
 - a) works of art
 - b) rare objects of interest
 - c) collections the museum already has

- 2) What do they work with?
 - a) pieces of pottery, and bones, and objects that are sent to the museum for study
 - b) antiques, pieces of pottery and art objects that are very rare.
 - c) pots and antiques and objects that are sent to the museum for study.

- 3) Once they find out as much as they can, what do they do?
 - a) dust the articles and store them in closets.
 - b) dust them and sell them to people who visit the museum.
 - c) plan and organize the displays you see.

Turn the page.

Print the correct answer after each question and then turn the page.

Shoes

- 1) What did Jack do one morning? _____
- 2) What did he have to do then? _____
- 3) What colour was the first shoe he put on? _____
- 4) Why didn't he put the other one on? _____
- 5) What colour was the only one he could find? _____
- 6) So, what did he do? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

93

Shoes

- 1) What did Jack do one morning? a) He woke up late. b) He woke up early.
c) He forgot to brush his teeth.
- 2) What did he have to do then? a) eat his breakfast b) dress in a hurry
c) brush his teeth
- 3) What colour was the shoe he put on? a) black b) blue c) brown
- 4) Why didn't he put the other one on? a) It was torn. b) He took another one
by mistake. c) He could not find it.
- 5) What colour was the only one he could find? a) black b) blue c) brown
- 6) So, what did he do? a) He ate his breakfast in a hurry and ran to the bus stop.
b) He put it on and ran to school. c) He wore his slippers and ran to school.

Turn the page.

-9-

Print the correct answer after each question and then turn the page.

The Market

- 1) What city is on the south eastern shore of Australia? _____

- 2) What kind of market is almost in the middle of the city? _____

- 3) What kind of building is the market in? _____

- 4) What is nailed into cases or sewn into sacks, or just pushed and piled into
huge heaps? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

The Market

- 1) What city is on the south eastern shore of Australia? a) Market
b) Sydney c) Austria
- 2) What kind of market is almost in the middle of the city?
a) a craft market b) a fish market c) a fruit and vegetable market
- 3) What kind of building is the market in?
a) a vast, dirty, lofty, empty, building b) a dingy, dusty, crowded, noisy building
c) a vast, dusty, lofty, noisy building
- 4) What is nailed into cases or sewn into sacks, or just pushed and piled into huge
heaps? a) peas and pumpkins, and beans and bananas, and apples and apricots
b) peas and potatoes, and beans and turnips, and apples and oranges
c) carrots and pumpkins, and lemons and bananas, and peaches and apricots

Turn the page.

-11-

Print the correct answer after each question and then turn the page.

Peter Cooper's Engine

- 1) What did Peter Cooper build? _____
- 2) What was it used for? _____

- 3) How far away was the town? _____
- 4) In August in the year 1830, what was the engine hooked to? _____

- 5) How fast did it go? _____
- 6) How long did the trip take? _____
- 7) What surprised the people? _____

Turn the page.

Circle the answer that belongs in the story. There is only one right answer for each question. When you have finished, turn the page.

Peter Cooper's Engine

- 1) What did Peter Cooper build? a) an airplane b) a railroad engine c) a train
- 2) What was it used for? a) to take people from a city to a town
b) to take animals from the country to the city c) to pull cars from a city to a town
- 3) How far away was the town? a) 18 miles b) 13 miles c) 23 miles
- 4) In August in the year 1830, what was the engine hooked to? a) a car full of cattle
b) a car packed full of people c) a car packed with cargo
- 5) How fast did it go? a) 18 miles an hour b) 48 miles an hour c) 13 miles an hour
- 6) How long did the trip take? a) 18 minutes b) 45 minutes c) 48 minutes
- 7) What surprised the people? a) that anyone could breathe while going so fast
b) that anything could move so fast c) that it could pull so much weight

Turn the page.

STOP

PLEASE RAISE YOUR HAND

VERBAL MEMORY SCALE - MANUALSECTION II INDIVIDUAL ADMINISTRATIONPART I

Give a Section II Booklet to the student and record his responses on the answer sheet provided.

Example:

"Turn to page 1 and look at the instructions at the top of the page while I read them out loud. Read this story about...(The Rabbit for level 2, or The Little Girl for level 4) to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later."

-pause-

"O.K., now I have some questions for you to answer." *Turn to the question sheet.*

"Now, I'll ask some more questions, but this time, after each question, I will say three answers. See if you can pick the right answer. Tell me the answer that belongs in the story. There is only one right answer for each question." *Turn to the question sheet.*

"In the rest of this booklet there are more stories for you to read, and for each story I have some questions for you to answer. Each time, I'd like you to read the story to yourself and then turn the page. Then I will ask you questions. Do you have any questions?"

"O.K., go ahead. Turn to page 3 and read the next story about...(The Dog for level 2, or The House for level 4) to yourself."

-pause-

Turn to the question sheet.

"O.K. Turn to page 5 and read the next story about...(The Indian Boy for level 2, or The Young King for level 4) to yourself."

-pause-

Turn to the question sheet.

Note: When administering this part of the test, immediately after the student has finished each of the stories, the examiner should turn to the question sheet and proceed to ask the Recall Questions. Then say "Now see if you can pick the right answer" and proceed to ask the Recognition Questions. Record all answers on the answer sheet provided. Collect Section II Booklet and proceed with Part II.

PART II

"Now I am going to read a story out loud to you and then I will ask you questions about it. Be sure to listen carefully so that you can answer the questions."

Example:

"The first story is about...(Jack for level 2, or The Accident for level 4)."

Jack

Jack made a house.
He made it out of a box.
He put a flag on top.
The flag is red, white, and blue.

The Accident

A boy was hurt on our street yesterday. He had been playing ball and was riding his bicycle away from the ball field when a car came down the road. He did not see the car coming because he was looking back at the boys who were still playing ball. The car was going slowly. It hit the boy, but did not run over him. His arm was hurt and his bicycle was bent.

"Now I have some questions for you to answer." *Turn to the question sheet and proceed to ask the Recall Questions and then the Recognition Questions.*

"I have more stories to read to you and for each story, I have some questions for you to answer. Each time, I'd like you to listen carefully to the story while I read it out loud, and then I will ask you questions. Do you have any questions?"

1) "This is a story about...(Dick's Present for level 2, or The Clubhouse for level 4)."

Dick's Present

Dick jumped out of bed and ran downstairs. It was his birthday. He found a big basket on his chair at the table. Something was moving in the basket. Dick took off the cover. Out jumped a little brown dog. The dog started to bark and wag his tail. He was glad to get out.

The Clubhouse

Late in the summer a man started to build a house. He wanted to finish it before winter came. He had some men dig the cellar for him. Then he built the floor and the cellar steps himself. Before he could do anything more, he had to move away to another town. He left the house just as it was. He told the boys next door that they might use the cellar as a clubhouse.

Turn to the question sheet and proceed to ask the questions.

- 2) "This is a story about...(The Lighthouse Keeper for level 2, or The Archaeologist for level 4)."

The Lighthouse Keeper

Early every morning, Mr. Greenfield climbed the stairs to the top of the lighthouse. He opened the glass, took out the lamp, and put it out. He cleaned the glass and made it shine. After putting the lamp back in its place, he cleaned all the windows. Then he went downstairs. From time to time Mr. Greenfield went up to the top of the lighthouse to look out over the lake. He looked through his field-glasses at the boats going by.

The Archaeologist

An archaeologist is very much like a detective, but he is not trying to solve crimes. He is trying to piece together the whole story of man. The clues he seeks may be in pots or paintings, plows or arrowheads, beads or buildings. Because he is trained for his job, an archaeologist can visualize a great deal from these small clues.

Turn to the question sheet and proceed to ask the questions.

PART III (24 hours later)

"Once again I'd like you to answer some questions on the stories we read yesterday. Do not worry if you cannot answer all of the questions, just try your best. Do you have any questions?"

Turn to the question sheet and proceed to ask the questions. Record all answers on the answer sheet and introduce the questions by saying: "Here are some questions on the story about title", or "In the story about title ..." and proceed with the first question.

SECTION II BOOKLET

- Level 2 -

INDIVIDUAL ADMINISTRATION

-1-

Read this story about The Rabbit to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later.

The Rabbit

Peter is a big white rabbit.

He has long ears.

He has a little tail.

He can jump and hop.

Turn the page.

STOP

Do not turn the page
until you are told to do so

-3-

Read this story about The Dog to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later.

The Dog

A little black dog ran away from home. He played with two big dogs. They ran away from him. It began to rain. He went under a tree. He wanted to go home, but he did not know the way. He saw a boy he knew. The boy took him home.

Turn the page.

STOP

Do not turn the page

until you are told to do so

-5-

Read this story about The Indian Boy to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later.

The Indian Boy

Once there was an Indian boy called Silver Cloud.
He lived in the forest with his mother and father.
Silver Cloud was a friend of the forest animals. He
played with them and talked with them. The animals
liked Silver Cloud. They helped him whenever they could.

Turn the page.

VERBAL MEMORY SCALE - QUESTION SHEET - LEVEL 2SECTION II INDIVIDUAL ADMINISTRATIONExampleThe Rabbit

- 1) What is the rabbit's name?
- 2) What colour is the rabbit?
- 3) He has long what?
- 4) He has a little what?
- 5) What can he do?

Turn to the manual for instructions for Recognition questions.

- 1) What is the rabbit's name? a) Paul b) Peter c) Jack
- 2) What colour is the rabbit? a) white b) grey c) brown
- 3) He has long what? a) feet b) whiskers c) ears
- 4) He has a little what? a) nose b) tail c) face
- 5) What can he do? a) run and jump b) hop and skip c) jump and hop

The Dog

- 1) Who ran away from home?
- 2) How many dogs did he play with?
- 3) Why did the dog go under the tree?
- 4) What did the dog want then?
- 5) Whom did he see?
- 6) How did he get home?

Turn to the manual for instructions for Recognition questions.

- 1) Who ran away from home? a) the boy b) the dog c) the cat
- 2) How many dogs did he play with? a) 2 b) 3 c) 4
- 3) Why did the dog go under the tree? a) because he was afraid
b) because it was hot c) because it began to rain
- 4) What did the dog want then? a) to go home b) to play c) to rest

The Dog (cont'd)

- 5) Whom did he see? a) a dog he knew b) a boy he knew c) a girl he knew
- 6) How did he get home? a) His master took him home. b) He followed the other dog. c) The boy took him home.

The Indian Boy

- 1) What was the Indian boy's name?
- 2) Who did he live with?
- 3) What did he do with the forest animals?
- 4) What did the animals do for the Indian boy?

Turn to the manual for instructions for Recognition questions.

- 1) What was the Indian boy's name? a) Grey Squirrel b) Running Deer c) Silver Cloud
- 2) Who did he live with? a) his mother and father b) his grandfather
c) the forest animals
- 3) What did he do with the forest animals? a) He fed them and talked with them.
b) He played with them and talked with them. c) He lived with them and
and played with them.
- 4) What did the animals do for the Indian boy? a) They let him sleep in their beds.
b) They brought him nuts and berries to eat. c) They helped him whenever they
could.

Example

Jack

- 1) What did Jack make?
- 2) What did he make it out of?
- 3) What did he put on top?
- 4) What colour was it?

Turn to the manual for instructions for Recognition questions.

- 1) What did Jack make? a) a flag b) a house c) a fence

Jack (cont'd)

- 2) What did he make it out of? a) wood b) straw c) a box
- 3) What did he put on top of it? a) a sign b) a chimney c) a flag
- 4) What colour was it? a) red and white b) gold, green and blue
c) red, white and blue

Dick's Present

- 1) What did Dick do when he woke up?
- 2) What day was it?
- 3) What did he find on his chair?
- 4) What did Dick notice about it?
- 5) What did Dick do then?
- 6) What was inside?
- 7) What did it do?
- 8) How did it feel?

Turn to the manual for instructions for Recognition questions.

- 1) What did Dick do when he woke up? a) He sat up and stretched.
b) He jumped out of bed and got dressed. c) He jumped out of bed and ran
downstairs.
- 2) What day was it? a) Saturday b) Christmas Day c) his birthday
- 3) What did he find on his chair? a) a basket b) a newspaper c) a box
- 4) What did Dick notice about it? a) It made noises. b) Something was moving.
c) It was very big.
- 5) What did Dick do then? a) He ate breakfast. b) He put it on the floor.
c) He took off the cover.
- 6) What was inside? a) a little brown dog b) a little white rabbit
c) a little furry kitten
- 7) What did it do? a) It started to bark and run b) It jumped out and wagged

Dick's Present cont

- its tail. c) It started to bark and wag its tail.
- 8) How did it feel? a) happy and warm b) glad to get out c) tired and hungry

The Lighthouse Keeper

- 1) What is the Lighthouse Keeper's name?
- 2) What did he do with the glass?
- 3) After putting the lamp back in its place, what did he do?
- 4) What did he look at through his field-glasses?

Turn to the manual for instructions for Recognition questions.

- 1) What is the Lighthouse Keeper's name? a) Mr. Park b) Mr. Greenfield
c) Mr. Green
- 2) What did he do with the glass? a) He dropped it on the floor and broke it.
b) He cleaned the glass and then put it away. c) He cleaned the glass and made it shine.
- 3) After putting the lamp back in its place, what did he do? a) He cleaned all the windows. b) He lit the lamp. c) He looked through his field-glasses.
- 4) What did he look at through his field-glasses? a) the lake b) the boats
c) the ocean

Name _____

Date _____

Grade _____

Birth Date _____

School _____

Age _____

bit Recall: SECONDS

24 HOURS

1.

2.

3.

4.

5.

inition:

1.

2.

3.

4.

5.

Recall:

1.

2.

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inition:

1.

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6.

ANSWER SHEET - LEVEL 2 CONTINUED

Indian Boy

SECONDS

24 HOURS

1:

1.

2.

3.

4.

Definition:

1.

2.

3.

4.

1:

1.

2.

3.

4.

Definition:

1.

2.

3.

4.

ANSWER SHEET - LEVEL 2 CONTINUED

Present

SECONDS

24 HOURS

1:

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2.

3.

4.

5.

6.

7.

8.

Definition:

1.

2.

3.

4.

5.

6.

7.

8.

Lighthouse Keeper Recall:

1.

2.

3.

4.

Definition:

1.

2.

3.

4.

SECTION II BOOKLET

- Level 4 -

INDIVIDUAL ADMINISTRATION

-1-

Read this story about The Little Girl to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later.

The Little Girl

A little girl got off the train all alone.
There was nobody at the station to meet her. She
asked the man inside the station where her mother was.
He said that her mother could not get the car started.
A man was trying to fix it. The little girl sat down
to wait. A few minutes later a big car came around the
corner with her mother in it. The little girl got in
and they drove home.

Turn the page.

STOP

Do not turn the page
until you are told to do so

-3-

Read this story about The House to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later.

The House

Three boys built a house in the woods. They put a table and two old chairs in it. There was a basket full of apples under the table. One afternoon they went away and left the door open. When they came back, they found two little pigs eating the apples.

Turn the page.

STOP

Do not turn the page

until you are told to do so

-5-

Read this story about The Young King to yourself. Read it just once and then turn the page. Read it carefully so that you can answer questions about it later.

The Young King

A great king ruled Egypt about 1350 B.C.
He was only twelve years old when he took
over the throne of this powerful kingdom.
Like boys of today, he loved sports of many
kinds. In those days, there was no
baseball or tennis or basketball, but the
young king loved archery and hunting. He
hunted wild duck and lions.

Turn the page.

VERBAL MEMORY SCALE - QUESTION SHEET - LEVEL 4SECTION II INDIVIDUAL ADMINISTRATIONExampleThe Little Girl

- 1) The little girl got off of the what?
- 2) Who was at the station to meet her?
- 3) Whom did she talk to?
- 4) Why wasn't her mother there?
- 5) What did the little girl do?
- 6) How long was it until her mother arrived?
- 7) Where did she go with her mother?

Turn to the manual for instructions for Recognition questions.

- 1) The little girl got off of the what? a) bus b) airplane c) train
- 2) Who was at the station to meet her? a) her mother b) a man c) nobody
- 3) Whom did she talk to? a) the driver b) the man in the station c) her mother
- 4) Why wasn't her mother there? a) She could not get the car started.
b) She could not get a babysitter. c) She could not get a taxi.
- 5) What did the little girl do? a) She began to cry. b) She sat down to wait.
c) She walked home.
- 6) When did her mother arrive? a) after a long time b) an hour later
c) a few minutes later
- 7) Where did the little girl and her mother go? a) home b) to school
c) to her neighbour's house

The House

- 1) How many boys built the house?
- 2) Where did they build it?
- 3) What did they put in it?

The House cont

- 4) What did they do one afternoon when they went away?
- 5) What did they find when they came back?
- 6) What were they doing?

Turn to the manual for instructions for Recognition questions.

- 1) How many boys built the house? a) 2 b) 3 c) 5
- 2) Where did they build the house? a) by a river b) beside a big tree
c) in the woods
- 3) What did they put in it? a) a table and two chairs b) a chair and a table
c) a bed and two chairs
- 4) One afternoon they went away and did what? a) played in the woods
b) left the door open c) left the window open
- 5) When they came back they found two what? a) pigs b) squirrels c) bears
- 6) What were they doing? a) eating the nuts b) sitting on the chairs
c) eating the apples

The Young King

- 1) What kingdom did the young king rule?
- 2) How old was he when he took over the throne?
- 3) What year did he rule?
- 4) Like boys of today, what did he love?
- 5) What two things did he love to do?

Turn to the manual for instructions for Recognition questions.

- 1) What kingdom did the young king rule? a) England b) Rome c) Egypt
- 2) How old was he when he took over the throne? a) 20 years old b) 12 years old
c) 10 years old.
- 3) What year did he rule? a) 1530 B.C. b) 1380 B.C. c) 1350 B.C.
- 4) Like boys of today, what did he love? a) baseball b) hot dogs c) sports

The Young King cont

- 5) What two things did he love to do? a) play baseball and basketball
b) archery and hunting c) hunting and tennis

Example

The Accident

- 1) Who was hurt on the street yesterday?
- 2) What had he been playing?
- 3) What was he riding?
- 4) What came down the road?
- 5) Why didn't he see it coming?
- 6) How fast was it going?
- 7) What happened to the boy?
- 8) What happened to the bicycle?

Turn to the manual for instructions for Recognition questions.

- 1) Who was hurt on the street? a) a boy b) a man c) a dog
- 2) What had he been playing? a) tennis b) ball c) hockey
- 3) What was he riding? a) a bus b) a tricycle c) a bicycle
- 4) What came down the road? a) a bus b) a car c) a truck
- 5) Why didn't he see it coming? a) He was looking back at the boys.
b) It was behind him. c) It was too far away.
- 6) How fast was it going? a) very fast b) slowly c) very slowly
- 7) What happened to the boy? a) He fell off his bicycle. b) The car hit him and
his arm was hurt. c) The car hit him.
- 8) What happened to the bicycle? a) It was bent. b) It went flying through the air.
c) Nothing happened to it.

The Clubhouse

- 1) When did the man start to build his house?

The Clubhouse cont

- 2) When did he want to finish it?
- 3) What did he have some men do for him?
- 4) Then what did he build himself?
- 5) Why did he not get the house finished?
- 6) What did he tell the boys next door?

Turn to the manual for instructions for Recognition questions.

- 1) When did the man start to build his house? a) in the spring b) in late summer
c) in the fall
- 2) When did he want to finish it? a) by the spring b) by late summer
c) before the winter
- 3) What did he have some men do for him? a) build the floor b) make the walls
c) dig the cellar
- 4) Then what did he build himself? a) the floor and walls b) the walls and
ceiling c) the floor and cellar steps
- 5) Why did he not get the house finished? a) The winter came. b) He had to move
to another town. c) He couldn't get enough help
- 6) What did he tell the boys next door? a) to use the cellar as a clubhouse
b) to watch over the house while he was away c) to stay away from the house
when he was away.

The Archaeologist

- 1) An archaeologist is very much like a what?
- 2) What story is he trying to piece together?
- 3) The clues he seeks may be found where?

Turn to the manual for instructions for Recognition questions.

- 1) An archaeologist is very much like a what? a) an engineer b) a doctor
c) a detective

The Archaeologist cont

- 2) What story is he trying to piece together? a) the story of rocks
b) the story of man c) the story of crimes
- 3) The clues he seeks may be found where? a) in pots or pans, bones or arrowheads,
beads or buildings b) in pots or caves, plows or arrowheads, beads or necklaces
c) in pots or paintings, plows or arrowheads, beads or buildings

Name _____

Date _____

Grade _____

Birth Date _____

School _____

Age _____

le Girl Recall: SECONDS

24 HOURS

1.

2.

3.

4.

5.

6.

7.

cognition:

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e House Recall:

1.

2.

3.

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1.

2.

3.

4.

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6.

e Young King Recall:

SECONDS

24 HOURS

118

- 1.
- 2.
- 3.
- 4.
- 5.

cognition:

- 1.
- 2.
- 3.
- 4.
- 5.

e Accident Recall:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

ANSWER SHEET - LEVEL 4 CONTINUED

Clubhouse Recall:

SECONDS

24 HOURS

1.

2.

3.

4.

5.

6.

Cognition:

1.

2.

3.

4.

5.

6.

Archaeologist Recall:

1.

2.

3.

Cognition:

1.

2.

3.

RECALL TASK - Scoring Criteria - Grade 2

Each item is scored 1 or 0. Sample responses are given below each item. (The sample responses are illustrative, and not exhaustive).

MAXIMUM SCORE: 45 points .

Items and Sample Responses

Written Response:

1. How many little chickens did the hen have?

General: *The number mentioned in the story must be specified.*

1 point - six ... 6.

0 points - seven ... three ... 2 ... 4 ... 5 ... She had 4 litte cidiins ... fuew.

2. What did she do with them one morning?

General: *A correct response must indicate that they went for a walk.*

1 point - to walk ... went for a walk ... walk ... took they out for a walk ... go for a walk ... She brot them for a walk ... walking ... walk them.

0 points - eat ... go to find something to eat ... take them out ... seeds ... swim ... she tok them for a bath.

3. What did they look for?

General: *A correct response must indicate that they looked for food in general and not specifically what they found.*

1 point - something to eat ... eat ... food ... things to eat ... something to eat and some sand to play in ... They looked for something to eat.

0 points - seeds ... seeds and sand ... seds ... some seeds ... seeds ... seed and dert.

4. What did they find?

General: *This is a two-part question. A correct response must mention both seeds and sand.*

1 point - seeds and sand ... sand seeds ... seed and some sand ... seeds and sand.

0 points - dog ... seeds ... sand ... food ... nothing ... berries and seeds ... seeds and water ... seeds and dirt ... seeds in sand.

5. Who came to play with them?

1 point - a dog ... Dog ... bog ... sand the dog ... A big dog ... a dog came.

0 points - a bird.

6. What did the hen do?

General: A correct response must indicate that the hen flew, however it is incorrect to say that she flew away.

1 point - flew at him ... flew ... fly ... flew at the dog ... she flew at him... flyed at the dog ... flwe at him ... felw at the dog.

0 points - she scaird the dog ... she flew away ... told him to go away ... maked him run away ... chase him away ... fly away ... flap her wing.

7. What did he do then?

1 point - ran away ... Made him run away ... ran ... go a way ... the dog ran away ... so it did go ... he ran off ... go ayway.

0 points - went home ... flew away ... nothe ... cashed them ... skhaired them away ... walk away ... fly.

8. What was hopping about?

General: This is a two part question. A correct response must include both rabbits and grasshoppers.

1 point - raddits and grasshoppers ... the rabbits and grasshoppers ... rabbet and grasshoppers ... rabbits grasshoper ... bunny's and grasshoppers.

0 points - grasshoper frog ... raddit ... grasshoppers ... the rabbits ... The little rabbit was ... a frog ... rabbits and toads.

9. What was flying about?

General: This is a two-part question. A correct response must include both bees and birds.

1 point - the bees and the bird were flying about ... bees birds ... the birds and the bees ... bee's and birds ... bee bard ... bee and birts.

0 points - bees ... bird ... birds and buterflys ... The bird ... A bird was flying about ... butterflies and brids ... brids.

10. Where was their home?

1 point - the grdin ... gradrn ... in the garden ... on the garden ... In a garden ... on the graden ... in a girdin.

0 points - The grand was there Home..in the grass ... farm ... the gronde ... in the forest ... in a cave ... in a three ... at the farm.

11. Who wasn't there to scare them or try to catch them?

1 point - girls and boys ... boys grils ... doy girl ... children ... chilchren ... broys and girs ... the boy's and girl's.

0 points - no body ... anybody ... fox ... a dog ... The crow wasn't there to scare them.

12. What did the boy have?

1 point - a cat ... A big gray cat ... a big fat cat ... He had a cat ...

0 points - a little gray kitten ... some mikk ... milk for the cat ... a dog ... gray kitten.

13. What colour was it?

1 point - gray ... grey ... graw ... galy ... gry.

0 points - white ... brown ... yellow ... black ... gray and whit ... it was black.

14. What happened when he called to her?

1 point - she did not come ... him din't come ... she bib not come ... she nevre came for her milk ... she wound't come down ... she did no come.

0 points - nothing ... a dog came ... she ran to him ... milk ... a dog chased her in a tree ... she did come.

15. Where was she?

1 point - up in a tree ... in the tree ... tree ... in a tee ... stuk in a tree ... up a tree ... She was up in a tree ... up in a three.

0 points - a cat.

16. What was she doing?

General: A correct response must indicate that she was looking at a dog.

1 point - looking down at a dog ... looking at a dog ... watching the dog ... looking dowe at the dog ... She was looking down at the dog.

0 points - looking down ... hiding ... looking ... waiting for the dog to go away ... try to get away from a dog ... She was sitting ... prring ... hiding from a dog.

17. What did the boy do then?

General: A correct response must indicate that the boy caused the dog to

go away eg. "scared the dog away" as opposed to "scared the dog".

1 point - sent the dog away ... chase the dog away ... mad the dog go away ... skerd the Dog away ... send him away.

0 points - chase ... scare ... got her down ... toled the dog off ... gave her milk ... told the dog to go away ... call her again.

18. What happened next?

General: *This is a two-part question. A correct response includes the notion of the cat getting out of the tree and coming for her milk. It is incorrect to say that the cat drank her milk.*

1 point - the cat jumped down and came for her milk ... the cat came down out of the tree for her milk.... She jumped down from the tree and came for her milk.

0 points - the cat jumped down ... the cat went to have his milk ... She came down and drank her milk ... He gave her the Milk ... she came.

19. What was the woman's name?

1 point - Mrs. Park ... Miss park ... Park ... Mrs. park ... Miss. Park.

0 points - Mir Parker ... Miss Paker ... Mrs. parker ... Mrs. Parken ... The fine old women ... Miss old Dame ... Mrs. Parks.

20. Who did she live with?

1 point - noboty ... nobody ... none ... by herself ... No one ... all alon ... She lived with no one ... no won ... with herself ... her sfle ... nobuty.

0 points - hasband ... no children ... A cat ... her husband ... flowers ... Mr Park ... children nextstore ... her husband.

21. What was around her house?

1 point - a garden ... graden ... grdin ... A gardn ... garben ... a big garden.

0 points - flowers ... nabors ... the street ... trees and flowers ... a white fence ... fowlers.

22. What did she do all through the warm days?

General: *A correct response must specify that she worked with her flowers as opposed to her garden.*

1 point - work with her flowers ... she worked on flowers ... Look after he flowers /.. fix her flowers ... helped her flowers.

0 points - work ... work with her garden ... go for a walk ... she went next door ... give children candy that live next door ... she sat on her porch ... picked flowers.

23. What did she take to the children next door?

General: *This is a two-part question. A correct response must include candies and other things.*

1 point - candy and other things ... candies and oether good things ... candy and other swet things ... candy and other good things to eat ... candy and good stuff.

0 points - candies and cookies and candy ... flowers ... cake's and cookies ... some cookies ... candy and cake ... candy apples and ice cream ... sugar and candy.

Vocal Response:

24. Who ran away from home?

General: *A correct response must refer to one dog.*

1 point - the dog ... a little dog ... a dog ... a little black dog ... dog.

0 points - rabbit ... the cat ... the kitten ... the dogs ... the boy.

25. How many dogs did he play with?

1 point - 2 ... 2 big dogs.

0 points - 1 ... 3 ... 4 ... 7 ... 5 ... none ... a few.

26. Why did the dog go under the tree?

1 point - it began to rain ... it started to rain ... cause it was raining ... raining ... it rained ... because it was raining and he didn't want to get wet ... it didn't want to get wet.

0 points - because it was hot ... to rest ... cause he didn't know his way home ... because he wanted to ... because the cat was there ... to get some shade.

27. What did the dog want then?

1 point - to go home ... wanted to go back home ... go home again ... he wanted to go home.

0 points - a bone ... something to eat ... a boy ... to play ... something to drink ... he wanted to run from home ... for the rain to go away ... he wanted to eat the cat ... his master.

28. Whom did he see?

1 point - a boy ... a boy he knew ... a little boy ... a little boy who he knew ... the boy he knew.

0 points - his owner ... his master ... dogs ... 2 dogs ... another dog ... a friend-one of his friends.

29. How did he get home?

1 point - with the boy ... the boy took him home ... the boy brought him there ... by the boy ... he took him home ... a boy brung him ... the boy showed him the way.

0 points - the owner took him home ... the owner found him and took him home ... ran ... the dogs showed him ... he followed the dogs ... with the other dog.

30. What was the Indian boy's name?

1 point - Silver Cloud.

0 points - Silver ... Indian Cloud ... Silver Star ... Sylvester Cloud ... Silver Cold ... Cloud ... Peter Cloud ... Grey Cloud.

31. Who did he live with?

1 point - mother and father ... his mother and father ... his mother and father in the forest ... his parents ... his mom and father.

0 points - his father ... the animals in the forest ... forest animals ... he lived with his grandfather and grandmother ... a dog.

32. What did he do with the forest animals?

General: *This is a two-part question. A correct response must indicate that he played with them and talked with them.*

1 point - talked and played with them ... played with them and talked to them ... talk and play with them ... plays and talks with them.

0 points - play with them ... took care of them ... he played with them ... played ... talked to them ... talk to them and pat em ... helped them ... he loved them.

33. What did the animals do for the Indian boy?

1 point - help him ... helped him whenever they could ... trying to help him ... they did everything they can to help him ... help him sometimes.

0 points - took care of him ... gave him their stuff to eat ... gave him some flowers ... listen ... talked to him ... thank him ... told him the way home, took him home.

34. What did Dick do when he woke up?

General: *This is a two-part question. A correct response must include the idea of getting out of bed as well as going downstairs.*

1 point - jumped out of bed and ran downstairs ... he jumped up and ran downstairs ... he got out of bed and he went downstairs.

0 points - run downstairs ... jumped out of bed ... get out of his bed ... he seen a present ... he got dressed ... opened the basket ... he ran downstairs because it was his birthday.

35. What day was it?

1 point - his birthday.

0 points - Saturday ... Sunday ... Christmas ... Friday ... Tuesday.

36. What did he find on his chair?

1 point - a basket ... a little basket ... a basket with a dog inside ... found a basket.

0 points - a birthday present ... a box ... a dog ... some presents ... a little brown dog ... a little box.

37. What did Dick notice about it?

1 point - something was moving in it ... it was moving ... it was moving inside ... it moved ... there was something moving in it.

0 points - it was his birthday ... something was barking ... it wanted to come out ... it was wrapped up ... it was covered ... it was jumping ... it was big ... a dog was in it.

38. What did Dick do then?

1 point - open the box ... open the cover ... he took off the lid ... opened it ... took the cover off ... he opened the basket ... he took the top off ... he lifted off the cover.

0 points - he let the dog out ... he went downstairs and ate his breakfast ... he took the blanket off ... ran back upstairs.

39. What was inside?

1 point - a dog ... a little brown dog ... a little puppy ... a cute little puppy ... a little black and white dog ... a little puppy.

0 points - a kitten.

40. What did it do?

General: This is a three-part question. A correct response must include the following three parts: jumped out, barked and wagged its tail.

1 point - jumped out and started barking and wagging its tail ... it jumped up and barked and wagged its tail ... jumped out of the basket, barked and wagged its tail.

0 points - jump in the box ... bark ... wag its tail ... he jumped out of the basket ... bark and wag its tail ... licked him ... bark and jump ... it wiggled ... hop out ... it barked and ran.

41. How did it feel?

General: A correct response must include that he felt glad because he was out.

1 point - glad to get out of the box ... happy to get out ... good to be out of the basket ... glad cause he got out of the basket ... nice to get out of the basket.

0 points - happy ... good ... fine ... soft ... nice ... it felt happy and hungry ... soft and furry.

42. What is the Lighthouse Keeper's name?

1 point - Mr. Greenfield.

0 points - the storekeeper ... Mr. Parker ... Mr. Park ... Mr. Brown ... Mr. Green ... Mr. Springfield ... Mr. Grey ... Joe.

43. What did he do with the glass?

General: This is a two-part question. A correct response must include the notion of cleaning and shining the glass.

1 point - cleaned it ... put it out ... took it out and cleaned it ... washed it ... he lit it ... he made it shine ... he brought it downstairs ... looked through it ... dropped it.

44. After putting the lamp back in its place, what did he do?

1 point - he cleaned all the windows ... washed the windows ... wash the windows ... he went to clean the windows.

0 points - turned it on ... looked through his fieldglasses ... went downstairs ... he watched the boats ... shined it ... he lit it ... he cleaned all the glasses.

45. What did he look at through his field-glasses?

1 point - boats ... the boats going by ... the ships ... the ocean and boats ... he looked at the boats going by ... the ships going by.

0 points - a boy ... the top of the lighthouse ... sat down ... the lake ... he looked across the water ... the light ... the sea ... sky ... the lighthouse.

RECALL TASK - Scoring Criteria - Grade 4

Each item is scored 1 or 0. Sample responses are given below each item. (The sample responses are illustrative, and not exhaustive.)

MAXIMUM SCORE: 40 points

Items and Sample Responses

Written Response:

1. How many boys went camping?

General: The number in the story must be specified.

1 point - Six...Six boys went camping...6 boys...There were 6 boys... Six boy's...6.

0 points - four...2 boys...three boys went camping...10 boys...some... two boys were in the tent.

2. Where did they put up their tent?

1 point - They put up their tent near a river...by a river...beside the river...They put it by the side of the river...by an edge of a river... They there tent up by a river...along a river...On the side of the river.

0 points - in the woods...on the shore...on grass...They put up their tent by a tree...by a lake...in the forest...down by the rocks...In a camping spot...They put up their tent in the meadow...at camp.

3. What did they take with them besides their tent?

1 point - They took food...Things to eat...food...Food and sleeping bags... food cloths and...besides there tent they took there food...food and something to drink...they took food on the trip.

0 points - They took there sleeping bages...a table and two old chairs... sleeping bags...They to some fruit with them besides the tent...They took there camping supplies.

4. What did the boys do when the sun went down?

General: This is a two-part question. For full points the answer must include the idea of going into the tent as well as going to sleep or bed.

1 point - They went into the tent to sleep...The went in their tent and went to sleep...The boys went to sleep in their tent...went inside to sleep... They got in their tents and went to sleep.

0 points - They went to bed...go to sleep...They went in the tent...The boys sat by the fire...When the sun went down they went to sleep.

5. What came around their tent in the night?

1 point - a cow...A cow came around their tent in the night...A cow came to their tent...cows...A big cow...A cow came to the tent...A cow did...There was a cow...A cow came to eat the grass.

0 points - 2 pigs...a wolf...a crow...A bear.

6. What did the boys think it was?

1 point - a bear...They thot it was a bear...a bare...Thought of a bear.

0 points - a wolf...a lion...2 pigs.

7. The museum staff work at finding out more about what?

General: Collections the museum already has. The fact that the museum already has these things must be expressed.

1 point - Things the museum already has...some of the collections...what they have in the museum...Things they already have...Things in the musiam...The things that the museum had and were getting in.

0 points - new things...More about Man...The human body...About bones and other objects...rare things of interest...more about bones and keys...more about old pottery bones, and other interesting things...Pottery, bones and objects.

8. What do they work with?

General: This is a three-part question. For full points the answer must include a notion of the following three parts: pieces of pottery, and bones, and objects that are sent to the museum for study.

1 point - pottery, bones, and some other collections...bones, pieces of pottery and other objects...They work with pottery bones and other things...pottery and bones and objects that are sent to them.

0 points - arrowheads, bones, rocks...pottery and bones...Peaces of poitry, bons and objiks sent in...They work with pots and things made of clay...poetry bones and objects to study...Things that are new...magnifieing kits...Books and Paper...They work with sincetists...They work with bones like big fosiles.

9. Once they find out as much as they can, what do they do?

1 point - they put them on display...Organize exhibits for people to see...display them...They put it out so we can see it...put it into a huge glass contaner for display...plan how to make the displays you see...They organize it and then they put it on display for you to see...they put it on display.

0 points - Put it together and make something...They work on another thing...put it in the museum...study what they fond...they put it out in big letter to tell us what they know...They start the museum.

10. What city is on the south eastern shore of Australia?

1 point - Sidney ... Sydney ... Sydne ... Cydne ... Sydnea ... Syden ...
The city called Sydey ... Syndny ... it is called sydeny ... It was in Sidney.

0 points - Australia ... Sendya ... Syavey ... Market ... Austra ... The city is Simon.

11. What kind of market is almost in the middle of the city?

General: A correct response must specify both fruit and vegetables.

1 point - a fruit and vegetable market ... A fruit and vetable market ... fruit and vegetable ... a fruit and vedgtable place ... fruit and vedgdabals.

0 points - a big one ... a fruit market ... a huge crowded market ... food market ... a busy market ... vegetable market ... A dusty dirty crowded market is in the middle of the city ... A Farmers market.

12. What kind of building is the market in?

General: This is a four-part question. For full credit a response must include all of the following; vast, dusty, lofty, noisy.

1 point - a vast, dusty, lofty, noisy building.

0 points - old, vast and ragged ... A noisy building ... vast, dusty, dirty and noisy building ... a lofty packed, noisy old building ... a messy junky and dirty market ... it is not in a building.

13. What is nailed into cases or sewn into sacks, or just pushed and piled into huge heaps?

General: This is a six-part question. A correct response must include all of the following: peas, pumpkins, beans, bananas, apples and apricots.

1 point - pumpkins, peas, bananas, apples, apricots, and beans ... Peas, Pumpkins, apples, apricot, banana's and beans ... All sorts of fruits e.g. apples, appricots, bananas beans pumpkins peas.

0 points - fruit and potatos and vegetables ... pumpkins, banans, aprioots, beans and peas ... vegetalbes and fruit like apples apreacots and other things ... carrots and pumpkets and lemon's and bannos ... boxes of vegtibles ... apurcots apples and peaches.

14. What did Peter Cooper build?

General: A correct response must refer to an engine as opposed to a train. If the type of engine is mentioned it must refer to railroad engine as opposed to a steam engine.

1 point - He built a engin ... a railroad engine ... A Engine train ... A engiene ... A rail way engine ... He built one of the first engines ... Peter Cooper built a train engine.

0 points - a train ... Steam engine ... trains ... A railroad track ... A desel Engine ... He bilt a stem engin

15. What was it used for?

1 point - it was used for pulling cars ... It was used to pull cars from one city to another ... to pull cars ... it was used to pull cars from a city to a town ... pulling box cars ... hauling cars.

0 points - a way to travle ... bringing people frome place to place ... carring people ... carrying cars ... A train ... To drive to the town ... to pull things ... It was for cargo ... Trucks and cars.

16. How far away was the town?

1 point - It was 13 miles ... 13 miles ... 13 ... The town was 13 miles away ... 13 miles away from the town ... 13 milles.

0 points - 4 miles ... it was 23 miles ... 30 ... 18 miles ... it was 48 miles away ... 16 miles ... 1 mille ... Fourty miles away ... 17 miles.

17. In August in the year 1830, what was the engine hooked to?

General: *The response must indicate that the car was full of people or had people in it.*

1 point - A car packed with people ... the engine was hooked to a car full of people ... a train full with people ... a cart of people ... A train with people on it ... a car filled with people.

0 points - cars ... a passager car ... a passenger train ... a passenger ... it was hooked to a train ... A car full of cargo ... Flat cars.

18. How fast did it go?

1 point - 18 miles an hour ... 18 miles ... 18 mph ... 18 milles per hour ... 18 miles anower.

0 points - It went very fast ... 48 miles an hour ... 13 m.p.h. ... fast! ... It went 45 miles per hour ... It went 30 miles an hour ... more than 18 miles an hour..

19. How long did the trip take?

1 point - 48 minutes ... 48 min. ... It took 48 mins. ... It took 48 minuets ... 48 ... The trip took 48 minutes ... it took 48 mitnes.

0 points - 43 min. ... 45 min ... It went 45 miles and hour ... 18 minutes ... a few minuets ... It took half an hour ... It took 4 hours ... The trip took 48 seconds ... an hour ... The trip took 48 hours.

20. What surprised the people?

1 point - That they could breath going so fast ... to breath while going so fast ... that they could breath at such a speed ... They could breathe

when going so fast ... that it would go so fast and that people could breath ... They could breath.

0 points - It could go so fast ... that it went so fast that noone could breath ... It worked ... the speed ... that the people could hold their breath that long ... that the Engine can carry people. ... that it could pull things.

Vocal Response:

21. How many boys built the House?

1 point - 3 ... three.

0 points - 2 ... 4 ... 6 ... there was 2 ... a few.

22. Where did they build it?

1 point - in the forest ... in the woods ... in the wood ... in the bush ... they built it in the forest ... the woods.

0 points - by the river ... in the tree ... in their back yard ... beside a big tree ... in the tree house.

23. What did they put in it?

General: *This is a two-part question. A correct response must indicate that there were chairs and a table. If the numbers of chairs and tables are mentioned, they must be 2 and 1 respectively.*

1 point - they put a table and 2 old chairs in it ... two chairs and a table ... a table and 2 old chairs and a basket of apples ... 2 chairs and a wooden table ... apples and 2 chairs and a table.

0 points - table ... a table and chairs ... a table and some food ... 3 chairs and a table ... an old chair and a table ... apples ... they put 2 little chairs in it ... wood ... tables and chairs in a basket of apples and furniture.

24. What did they do one afternoon when they went away?

1 point - they left the door open ... forgot to close the door ... forgot to leave the door closed ... put some apples under the table and left the door open ... they left the windows open and the door.

0 points - they went to play in the forest ... went for a walk ... put some apples under the table ... they went on a hike ... they closed the door ... they left the window open ... 2 pigs came in ... they went to pick some apples.

25. What did they find when they came back?

General: *If the number of pigs is referred to it must be 2.*

1 point - 2 pigs ... 2 pigs eating the apples ... 2 little pigs ... 2 wild pigs ... 2 little pigs eating their food ... 2 pigs eating the fruit ... 2 piggies ... 2 pigs came in ... some pigs eating their apples.

0 points - 3 pigs ... there was some bears in their house ... a pig eating their apples ... pig ... a basket full of apples ... 3 pigs eating the apples.

26. What were they doing?

General: A correct response must specify that they were eating apples.

1 point - eating the apples that they had in the basket ... eating the apples which were under the table and the door was open ... eating apples ... pigs were in eating the apples ... they saw squirrels eating the apples ... the pigs were eating their apples.

0 points - they were eating in their house ... sitting ... eating their food ... getting into the apples ... eating the fruit ... eating ... apples.

27. What kingdom did the young king rule?

1 point - Egypt ... the one in Egypt ... the kingdom of Egypt in B.C. ... he ruled Egypt ... Egyptian.

0 points - the one in 1350 B.C. ... Powerful ... in B.C. ... Sydney ... his father's ... Israel ... a powerful kingdom.

28. How old was he when he took over the throne?

1 point - He was 12 years old when he took over the throne ... 12 ... 12 years old.

0 points - 18 ... He was 20 ... 13 ... 50 ... 7 ... a young boy ... young ... 10 years old ... he was 11.

29. What year did he rule?

1 point - 1350 ... 1350 B.C.

0 points - 1650 ... 1660 ... 1385 ... 1830 B.C. ... 1850 ... 1950 ... 1930 ... 1580 ... 1530 ... 1360 B.C.

30. Like boys of today, what did he love?

1 point - he loved sports ... sports ... playing sports ... sports of all kinds ... archery and sports.

0 points - he loved to hunt and play games ... to play games ... cars ... loved archery and hunting ... tennis and baseball ... playing baseball, basketball and tennis ... all kinds of games ... hunting and ruling ... tennis and golf.

31. What two things did he love to do?

1 point - hunting and archery ... archery and hunting wild duck ... archery and hunt ... bow and arrow and hunting.

0 points - he liked to hunt ... hunting and sports ... play baseball and basketball ... tennis and baseball ... pottery and hunting ... baseball and hockey ... archery

... tennis and golf ... hunt lions.

32. When did the man start to build his house?

1 point - in the summer ... in late summer ... summer ... started to build his house in the summer ... summer time ... in the late summer ... during the summer.

0 points - when it was just about winter ... late in the spring ... fall ... in the fall ... when he moved there ... before winter came ... in early fall ... before he went away.

33. When did he want to finish it?

1 point - before winter ... for winter ... by winter ... just before winter ... before winter started ... he wanted to finish it by winter.

0 points - before he went away ... by the end of the summer ... late summer ... before he moved ... late fall ... in the winter ... next spring.

34. What did he have some men do for him?

1 point - he had some men dig the cellar for him ... dig out the ground so he could have a cellar ... dig the cellar ... dig out the basement ... dig the hole for the cellar.

0 points - build the cellar ... put the cellar in ... make the cellar ... put in the walls and make the floor ... dig the stairs ... put something in the cellar ... put down the floor ... help him build it ... help with the cellar ... help to put in the cement.

35. Then what did he build himself?

General: This is a two-part question. For full credit a response must include the notion of both floor and steps.

1 point - he built the stairs for the cellar and he built the floor over the cellar ... steps and floor ... the floor and the cellar stairs ... he built the stairs and floor ... put the floor in and make the cellar stairs ... the floor and basement steps ... the cellar floor and walls and the stairs.

0 points - a clubhouse ... the stairs ... the walls and the cellar steps ... the floor and ceiling ... roof ... the house ... a cellar ... make the cement for the floor.

36. Why did he not get the house finished?

1 point - because he had to move away ... he had to go away to another town ... because he had to move ... he moved ... cause soon he had to move away ... he left to another town.

0 points - because he never had enough time ... he had to leave ... winter came ... because he had to go on a trip ... he couldn't get enough helpers ... because

he had to go in to town.

37. What did he tell the boys next door?

1 point - that they could use the cellar for a clubhouse ... that they could use the unfinished house as a clubhouse ... use the basement for a club house ... they could use it for a clubhouse.

0 points - they could use the house as a cellar ... to watch the house till he comes back and finishes ... that they could make a fort out of the cellar ... build a clubhouse in the cellar.

38. An archaeologist is very much like a what?

1 point - like a detective ... detective ... detective but isn't ... a detective that doesn't solve crime.

0 points - architect ... not like a crime solver ... a policeman ... a man who can build stuff like museums ... a doctor.

39. What story is he trying to piece together?

1 point - the story of man ... about man ... the human race ... man's story ... the story of how man came to be ... a man story.

0 points - crime ... the facts ... a clue ... police story ... something about bones ... about rocks ... of fossils and rocks ... about nature ... the story of crime.

40. The clues he seeks may be found where?

General: This is a six-part question. For full credit a response must include all of the following six parts: pots, paintings, plows, arrowheads, beads and buildings.

1 point - in pots or paintings, plows or arrowheads, beads or buildings.

0 points - in arrowheads ... pottery, arrowheads, beads ... in pots paintings, arrowheads, beads, in pots or pans and in buildings or beads ... pictures, pots ... around man ... hidden ... on things that he finds ... in relics bones and pottery.

RECOGNITION - Scoring Criteria - Grade 2

Each item is scored 1 or 0.

MAXIMUM SCORE: 45 points

1. (c) 6
2. (c) She took them for a walk.
3. (a) something to eat
4. (b) seeds and sand
5. (c) a dog
6. (c) flew at him
7. (a) ran away
8. (c) rabbits and grasshoppers
9. (c) bees and birds
10. (a) in the garden
11. (c) boys and girls
12. (a) a cat
13. (c) gray
14. (b) She did not come.
15. (c) up in a tree
16. (b) looking down at a dog
17. (c) send the dog away
18. (c) She jumped down and came for her milk.
19. (a) Mrs. Park
20. (c) by herself
21. (c) a garden
22. (a) She worked with her flowers.
23. (b) candies and other good things
24. (b) the dog
25. (a) 2
26. (c) because it began to rain
27. (a) to go home
28. (b) a boy he knew
29. (c) The boy took him home
30. (c) Silver Cloud
31. (a) his mother and father
32. (b) He played with them and talked with them
33. (c) They helped him whenever they could.

- 34. (c) He jumped out of bed and ran downstairs.
- 35. (c) his birthday
- 36. (a) a basket
- 37. (b) Something was moving.
- 38. (c) He took off the cover.
- 39. (a) a little brown dog
- 40. (b) It jumped out and wagged its tail.
or (c) It started to bark and wag its tail.
- 41. (b) glad to get out
- 42. (b) Mr. Greenfield
- 43. (c) He cleaned the glass and made it shine.
- 44. (a) He cleaned all the windows.
- 45. (b) the boats

RECOGNITION - Scoring Criteria - Grade 4

Each item is scored 1 or 0.

MAXIMUM SCORE: 40 points

1. (c) 6
2. (c) beside the river
3. (b) things to eat
4. (a) went into their tent to sleep
5. (c) a cow
6. (c) a bear
7. (c) collections the museum already has
8. (a) pieces of pottery, and bones, and objects that are sent to the museum for study
9. (c) plan and organize the displays you see
10. (b) Sydney
11. (c) a fruit and vegetable market
12. (c) a vast, dusty, lofty, noisy building
13. (a) peas and pumpkins, and beans and bananas, and apples and apricots
14. (b) a railroad engine
15. (c) to pull cars from a city to a town
16. (b) 13 miles
17. (b) a car packed full of people
18. (a) 18 miles an hour
19. (c) 48 minutes
20. (a) that anyone could breathe while going so fast
21. (b) 3
22. (c) in the woods
23. (a) a table and two chairs
24. (b) left the door open
25. (a) pigs
26. (c) eating the apples
27. (c) Egypt
28. (b) 12 years old
29. (c) 1350 B.C.
30. (c) sports
31. (b) archery and hunting
32. (b) in late summer
33. (c) before the winter

34. (c) dig the cellar
35. (c) the floor and cellar steps
36. (b) He had to move to another town.
37. (a) to use the cellar as a clubhouse
38. (c) a detective
39. (b) the story of man
40. (c) in pots or paintings, plows or arrowheads, beads or buildings.

WECHSLER MEMORY SCALE - LOGICAL MEMORY SUBTEST
FORM II

Test 4, *Logical Memory*, consists of two memory passages similar to the memory selection on the 10th year of the Stanford-Binet and similarly scored. The subject's score is the *average* of the number of ideas which he produces correctly on both passages. The test is intended to measure immediate recall of logical material.

IV. *Logical Memory* (Immediate recall)

"I am going to read to you a little selection of about 4 or 5 lines. Listen carefully because when I am through I want you to tell me everything I read to you. Are you ready?"

Memory Selection (A)

Dogs/ are trained/ to find/ the wounded/ in war time/. Police dogs/ are also trained/ to rescue/ drowning people/. Instead of running/ down to the water/ and striking out/ they are taught/ to make/ a flying leap/ by which they save/ many swimming strokes/ and valuable/ seconds of time/. The European sheep dog/ makes the best/ police/ dog/.

Memory Selection (B)

Many/ school/ children/ in northern/ France/ were killed/ or fatally hurt/ and others/ seriously injured/ when a shell/ wrecked/ the schoolhouse/ in their village/. The children/ were thrown/ down a hillside/ and across/ a ravine/ a long distance/ from the schoolhouse/. Only two/ children/ escaped uninjured/.

After reading the first selection, say, "Now what did I read to you? Tell me everything and begin at the beginning." Record verbatim and score according to number of ideas as marked off in selection.

After first selection is completed, say, "Now I am going to read you another little selection and see how much more you can remember on this. Listen carefully." Examiner reads second selection and proceeds as before.

Final score is the *average* of number of ideas correctly reproduced on both passages.

Maximum Score - 23.

(Excerpts from the Wechsler Memory Scale Manual)

REFERENCES

- Anastasi, A. Psychological Testing (3rd ed.). London: Collier-MacMillan Ltd., 1968.
- Benton, A. L. The Revised Visual Retention Test - Clinical and Experimental Applications (3rd ed.). New York: The Psychological Corporation, 1963.
- Birch, H. G., & Lefford, A. Two Strategies for Studying Perception in "Brain-damaged Children". In H. G. Birch (ed.) Brain Damage in Children - the biological and social aspects. New York: Williams and Wilkins Co., 1964.
- Chalfant, J. C., & Schefflin, M. A. Central Processing Dysfunctions in Children: a review of research. U.S. Department of Health, Education and Welfare, U.S. Government Printing Office, 1969.
- Clawson, A. The Bender Visual Motor Gestalt Test for Children - A Manual. Los Angeles: Western Psychological Services, 1970.
- Durrell, D. D. Durrell Analysis of Reading Difficulty Manual of Directions (new ed.). New York: Harcourt, Brace and World, Inc., 1955.
- Ferguson, G. A. Statistical Analysis in Psychology and Education (3rd ed.). Toronto: McGraw-Hill Book Co., 1971.

- Graham, F. D., & Kendall, B. S. Memory-for-designs test: revised general manual. Perceptual and Motor Skills, 1960, 11, 147-188.
- Guilford, J. P. Psychometric Methods (2nd ed.). Toronto: McGraw-Hill Book Co., 1954.
- Guilford, J. P., & Fruchter, B. Fundamental Statistics in Psychology and Education (5th ed.). Toronto: McGraw-Hill Book Co., 1973.
- Harper, R. G., & Wiens, A. N. Electroconvulsive Therapy and Memory. Journal of Nervous and Mental Disease, 1975 (Oct), 161 (4), 245-254.
- Hooper, H. Starting Points in Reading A (2nd book). Ginn and Company (Canada), 1973.
- Jenkins, J. J. Remember That Old Theory of Memory? Well Forget it! American Psychologist, 1974, 29, 785-795.
- Kirk, S. A., McCarthy, J. J., & Kirk, W. D. Examiner's Manual Illinois Test of Psycholinguistic Abilities (rev. ed.). Board of Trustees of the University of Illinois, 1968.
- Matarazzo, J. D. Wechsler's Measurement and Appraisal of Adult Intelligence (5th ed.). Baltimore: Williams and Wilkins Co., 1972.

- McCarthy, D. Manual for the McCarthy Scales of Children's Abilities.
New York: The Psychological Corporation, 1972.
- McCarthy, J. J., & McCarthy, J. F. Learning Disabilities. Boston:
Allyn and Bacon Inc., 1971.
- McInnes, J. A. (Editor-in-chief) Magic and Make-believe. Thomas Nelson
and Sons (Canada) Ltd., no date given.
- McIntosh, J. R. (Ed.). Stories Old and New. Toronto: The Copp Clark
Publishing Co., 1963.
- Myers, P. I., & Hammill, D. D. Methods for Learning Disorders. Toronto:
John Wiley and Sons, Inc., 1969.
- Wechsler, D. Manual for Wechsler Intelligence Scale for Children.
New York: The Psychological Corporation, 1949.
- Wechsler, D., & Stone, C. P. Manual for Wechsler Memory Scale. New York:
The Psychological Corporation, 1972.
- Whimbey, A. with Whimbey, L. S. Intelligence Can be Taught.
New York: E. P. Dutton and Co. In., 1975.