# **Redmond Sentence Recall**



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**PURPOSE:** The Redmond Sentence Recall (RSR) measures a child's ability to repeat sentenc-

es that contain regular past tense forms and past participle forms (e.g., "He

kicked" vs. "He was kicked"). Each child will repeat each of the 16 sentences after

s/he hears the sentence on the headphones.

### **MATERIALS:**

MP3 Player Score sheet Headphone

Headphone splitter

5-9 **AGES:** 

**TIME TO ADMINISTER:** Approximately 7-10 minutes

#### **SAMPLE ITEMS:**

Say, "You are going to listen to some sentences on the headphones. I want you to listen to the directions and then she will say some sentences. Repeat exactly what she says."

- For the practice sentence, provide children with feedback and encouragement.
- The practice sentence may be re-administered if children perform in a way that suggests they do not understand the task or if during the protocol it seems they need to be redirected to providing imitative responses.

#### **TEST ITEMS:**

- Administer the remaining sentences by pressing play on the MP3 player.
- During this task children will listen to all of the sentences on the MP3 player. After each sentence they will repeat the sentence. You will then record the child's response.
- There is a 6 second pause in between each track, if the child needs more time to answer then press the pause button to give them more time to respond.
- One repetition of each sentence is allowed if children request it or if the examiner considers it appropriate (e.g., a school announcement interrupts the item). For no responses or "I don't remember", prompt with "Just tell me what you can remember"
- and then if they still don't respond or remember record as >4 errors.
- All items on the RSR are administered regardless of response accuracy.
- Accept the child's final answer as their response. This includes revisions of answers that are correct that are changed to incorrect, or a response that is incorrect and then becomes corret.

## **Editing Symbols:**

Use the following symbols to indicate the differences between the student's responses and the printed items in the Record Form. You will add the symbols to the sentence on the scoresheet.

#### **Omission**

Mark a line through each word or part of a word that is omitted: ——

Target: The big football player washed the car with the hose.

Child's response: The football player wash the car with the hose.

What you record: The big football player washed the car with the hose.

## Repetition

Underline each word the student repeats with a wavy line:

Target:

All of the pictures were colored by his little sister.

Child's response: All of all of the pictures were colored by his little sister.

What you record: All of the pictures were colored by his little sister.

#### **Addition**

Use a caret to indicate the addition of a word or words: ^. Write the added words(s) above or below the caret.

Target: The lion's teeth were cleaned with a giant toothbrush.

Child's response: The lion's teeth were cleaned with a great big giant toothbrush.

What you record: great big

The lion's teeth were cleaned with a ^ giant toothbrush.

#### **Transposition**

Use an S curve to indicate transposed words:

Target: The little white mouse was caught by our neighbor's cat. The white little mouse was caught by our neighbor's cat. What you record: The little white mouse was caught by our neighbor's cat.

#### **Substitution**



To indicate a substitution, mark a line through each word that is omitted and write the substituted word above or below it.

Target: My liftle sister's dog caught the ball on the first bounce. My little brother's dog caught the ball on the first bounce. My little sister's dog caught the ball on the first bounce. My little sister's dog caught the ball on the first bounce.

brother's

## **Scoring the RSR:**

After the assessment, carefully consider the following scoring procedures in order to classify the student's response (e.g., 2 points, 1 point, or 0 points):

- Look at the whole sentence. Count any word that is changed, added, substituted, or omitted as
  one error.
- Count each transposition that **changes the meaning** of the sentence as two errors.
- Count each transposition that **does not change** the meaning of the sentence as one error.
- Using an appropriate contracted form (or non-contracted form) is acceptable and should not be counted as an error (*was not* or *wasn't* are both acceptable).
- Responses that contain regional and cultural patterns or variations that reflect dialectal differences from Mainstream American English are acceptable if they are part of the student's language system.
- Do not count repetitions of words (as in dysfluency or stuttering) as errors.
- Count the number of errors in the response and classify it according to the following:

Correct (0 Errors)	Sentence is repeated without errors. Write 2 in the "0 Errors" column
≤ 3 Errors	Write <b>1</b> in the "≤ 3 Errors" column
> 4 Errors	Any response with four or more words changed, added, substituted, omitted, or reversed; omission or re-sequencing of phrases containing four or more words, with a <b>0</b> in the "> 4 Errors" column

- Add up the totals for each column.
- Add up the total number of points earned and write that number over the printed 32 at the bottom of the score form.

Now that you have learned about the sentence imitation task, listen to "RSR Practice 1" and "RSR Practice 2." During these practice audio exercises, you will listen to two administrations of the sentence imitation task. Transcribe the children's responses and score the task on the response form. After the practice transcription and scoring has been completed, if you are ready you may proceed to "RSR Reliability 1". If you would like additional practice you may listen to "RSR Practice 3". Blank forms, as well as keys to the practice and reliability tasks are provided in supplemental material.

## **Demographics for screenings**

Norms for the RSR were created from participants who were attending regular education only. Children were excluded from the standardization sample if they were receiving any special education services (e.g., resource, reading, speech-language services), receiving English as a second language services, or were participating in an extended learning program.

Ethnic Category	Females	Males	Total
Hispanic	23 (6.1%)	24 (5.9%)	47 (6%)
Not Hispanic	351 (93.6%)	380 (93.4%)	731 (93.5%)
Unknown	1 (.3%)	3 (.7%)	4 (.5%)
ETHNIC TOTAL	375	407	782
Racial Categories			
American Indian	3 (.8%)	6 (1.5%)	9 (1.2%)
Asian	14 (3.7%)	14 (3.4%)	28 (3.6%)
Pacific Islander	3 (.8%)	8 (2.0%)	11 (1.4%)
Black	13 (3.5%)	5 (1.2%)	18 (2.3%)
White	341(90.9%)	371 (91.2%)	712 (91%)
More than one race			
Unknown	1 (.3%)	3 (.7%)	4 (.5%)
RACIAL TOTAL	375	407	782

## **Consistency, Reliability, Stability**

*Inter-Rater Consistency:* 

Inter-rater consistency was performed by randomly selecting 50 screening participants and re-listening and re-scoring the audio recording of the RSR administration. Analyzed using Pearson's r.

$$n = 50$$

	#agreements / (#agreements + #disagreements) * 100	r	
Redmond Sentence Recall	98.8%	.990***	*

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<sup>&</sup>lt; .05, \*\* p < .01, \*\*\* p < .001 (two tailed)

Test-Retest Reliability: 4 weeks or less:

Test-Retest reliability was performed by administering the RSR during each of the confirmatory testing sessions. Analyzed using Pearson's r.

N = 37, (M = 1.03 weeks, SD = 1.0, range = 1-4 weeks)

	r					
Redmond Sentence Recall	0.946**					
		N.	0.5	ماد ماد		

\* p < .05, \*\* p < .01, \*\*\* p < .001

(two tailed)

Screening Testing-to-Confirmatory Testing Stability: 20 weeks or less:

Screening testing-to-confirmatory testing stability was performed by comparing the RSR performed at the screening in the school and the RSR performed at the time of confirmatory testing. Analyzed using Pearson's r.

N = 96 (M = 14.72 weeks, SD = 4.31, range = 1-20 weeks)

	r	
Redmond Sentence Recall	.906**	* p < .05, ** p <.01, *** p <.001 (two tailed)

## Pearson's r among Redmond Sentence Recall and the CELF-4, TEGI

N = 254

	RSR	TEGI Past Tense Probe	CELF-4	TEGI
RSR		.604***	.804***	.695***
TEGI Past Tense Probe			.614***	.905***
CELF-4				.694***
TEGI				

# RSR scores by age (N = 782)

AGE	N	RANGE	MEAN	SD	15 <sup>™</sup> %ILE	10 <sup>™</sup> %ILE	5 <sup>™</sup> %ILE
5;0 – 5;5	65	0-29	16.06	7.16	8.90	5.00	1.30
5;6 - 5;11	92	0-29	16.71	6.70	9.00	8.00	3.95
6;0 - 6;5	106	1-32	19.47	7.11	10.05	9.70	6.00
6;6 – 6;11	141	0-32	21.65	5.58	16.00	14.00	12.00
7;0 - 7;5	114	1-32	21.91	7.15	13.25	11.50	5.25
7;6 – 7;11	81	7-31	23.65	5.19	19.00	16.00	14.10
8;0 – 8; 5	84	8-32	25.62	4.78	21.75	18.50	15.25
8;6 – 8;11	73	10-32	25.70	4.76	20.10	18.40	15.70
9;0 – 9;5	26	22-31	26.96	2.54	23.05	23.00	22.35

## Diagnostic accuracy associated with sentence recall screening standard score as a function of different reference standards for language disorder status

REFERENCE STANDARD	Area under curve	Opti- mal cutoff	Sensitivi- ty	Specifici- ty	Positive Likeli- hood Ra- tio <sup>b</sup>	Negative Likeli- hood Ra- tio <sup>c</sup>
I. Receiving SLP Services	.722	91.50	.667	.733	2.50	.454
II. <i>Parental Ratings</i>						
<i>CCC-2</i> <u>&lt;</u> 85	.773	94.50	.792	.643	2.21	.323
CCC-2 <u>&lt;</u> 80	.761	93.00	.800	.641	2.22	.312
III. Standardized Tests a Measures	and					
CELF-4 <u>&lt; 85</u>	.952	85.50	.891	.846	5.78	.129
<i>TEGI <u>&lt;</u> 85</i>	.851	93.00	.766	.785	3.56	.298
<i>NWR <u>&lt;</u> 85</i>	.872	94.50	.826	.769	3.57	.226
<i>CELF-4</i> <u>&lt;</u> 80	.950	78.50	.878	.887	7.77	.138
TEGI <u>&lt;</u> 80	.865	93.00	.795	.780	3.61	.263
<i>NWR</i> <u>&lt;</u> 80	.870	93.00	.849	.754	3.45	.200
<b>IV</b> . <i>At least two of the fo Receiving SLP Services; CCC-2</i> ≤ <i>85; CELF</i> ≤ <i>85; TEGI</i> ≤ <i>85; NWR</i> ≤ <i>85</i>	o <b>llowing:</b> .905	94.50	.857	.812	4.55	.176
V. All of the following:  Receiving SLP Services;  CCC-2 ≤ 80; CELF ≤ 80;  TEGI ≤ 80; NWR ≤ 80	.898	85.50	1.0	.700	3.33	0

<sup>&</sup>lt;sup>a</sup> Determined using Youden index ( $\mathcal{J}$ ) where  $\mathcal{J}=$  maximum {Sensitivity + Specificity -1} <sup>b</sup> Positive Likelihood Ratio = Sensitivity/(1-Specificity): values of 1 = "Neutral"; 3 = "Moderately" Positive";  $\geq$ 10 = "Very Positive"

<sup>°</sup> Negative Likelihood Ratio = (1-Sensitivity)/Specificity: values of 1 = "Neutral";  $\leq$  0.30 = "Moderately Negative";  $\leq$  0.10 = Extremely Negative"

## **Redmond Sentence Recall Standard Score Conversion Tables: 5;0-5;11**

Ages 5;0-5;5 (N = 65; boys = 33, girls = 32) Confidence Intervals: 68% ±1.86 90% ±3.06 95% ±3.65

Ages 5;6-5;11 (N = 92; boys = 47, girls = 45) Confidence Intervals: 68% ±1.63 90% ±2.68 95% ±3.19

RSR Raw Score	Standard Score	Percentile
0	66	1
1	68	2
2	70	2
3	72	3
4	74	4
5	76	5
6	78	7
7	81	10
8	83	13
9	85	16
10	87	19
11	89	23
12	91	27
13	93	32
14	95	37
15	97	42
16	99	47
17	101	53
18	104	61
19	106	66
20	108	70
21	110	75
22	112	79
23	114	82
24	116	86
25	118	88
26	120	91
27	122	93
28	125	95
29	127	96
30	129	97
31	131	98
32	133	99

RSR Raw Score	Standard Score	Percentile
0	62	1
1	64	1
2	67	1
3	69	2
4	71	3
5	73	4
6	76	5
7	78	7
8	80	9
9	82	12
10	84	14
11	87	19
12	89	23
13	91	27
14	93	32
15	96	39
16	98	45
17	100	50
18	102	55
19	105	63
20	107	68
21	109	73
22	111	77
23	114	82
24	116	86
25	118	88
26	120	91
27		91
	123	
28	125	95
29	127	96
30	129	97
31	131	98
32	134	99

## Redmond Sentence Recall Standard Score Conversion Tables: 6;0-6;11

Ages 6;0-6;5 (N = 106; boys = 46, girls = 60) Confidence Intervals: 68% ±1.46 90% ±2.40

95% ±2.86

Ages 6;6-6;11 (N = 141; boys = 80, girls = 61) Confidence Intervals: 68% ±1.26 90% ±2.07 95% ±2.47

RSR Raw Score	Standard Score	Percentile
0	58	.3
1	61	.5
2	63	1
3	65	1
4	67	1
5	69	2
6	71	3
7	73	4
8	75	5
9	77	6
10	80	9
11	82	12
12	84	14
13	86	18
14	88	21
15	90	25
16	92	30
17	94	34
18	96	39
19	99	47
20	101	53
21	103	58
22	105	63
23	107	68
24	109	73
25	111	77
26	113	81
27	115	84
28	118	88
29	120	91
30	122	93
31	124	95
32	126	96

RSR Raw Score	Standard Score	Percentile
0	41	<0.1
1	44	<0.1
2	47	<0.1
3	49	<0.1
4	52	0.1
5	55	0.1
6	57	0.2
7	60	0.4
8	63	1
9	65	1
10	68	2
11	71	3
12	74	4
13	76	5
14	79	8
15	82	12
16	84	14
17	87	19
18	90	25
19	92	30
20	95	37
21	98	45
22	100	50
23	103	58
24	106	66
25	109	73
26	111	77
27	114	82
28	117	87
29	119	90
30	122	93
31	125	95
32	127	96

## Redmond Sentence Recall Standard Score Conversion Tables: 7;0-7;11

Ages 7;0-7;5 (N = 114; boys = 55, girls = 59) Confidence Intervals: 68% ±1.40 90% ±2.30

95% ±2.74

Ages 7;6-7;11 (N = 81; boys = 46, girls = 35) Confidence Intervals: 68% ±1.67 90% ±2.75 95% ±3.27

RSR Raw Score	Standard Score	Percentile
0	54	0.1
1	56	0.2
2	58	0.3
3	60	0.4
4	62	1
5	64	1
6	66	1
7	68	2
8	70	2
9	72	3
10	75	5
11	77	6
12	79	8
13	81	10
14	83	13
15	85	16
16	87	19
17	89	23
18	91	27
19	93	32
20	95	37
21	98	45
22	100	50
23	102	55
24	104	61
25	106	66
26	108	70
27	110	75
28	112	79
29	114	82
30	116	86
31	119	90
32	121	92

Score         Score           0         40         <0.1           1         40         <0.1           2         40         <0.1           3         40         <0.1           4         43         <0.1           5         46         <0.1           6         48         <0.1           7         51         0.1           8         54         0.1           9         57         0.2           10         60         0.4           11         63         1           12         66         1           13         69         2           14         72         3           15         75         5           16         77         6           17         80         9           18         83         13           19         86         18           20         89         23           21         92         30           22         95         37           23         98         45           24         101         53	RSR Raw	Standard	Percentile
1       40       <0.1         2       40       <0.1         3       40       <0.1         4       43       <0.1         5       46       <0.1         6       48       <0.1         7       51       0.1         8       54       0.1         9       57       0.2         10       60       0.4         11       63       1         12       66       1         13       69       2         14       72       3         15       75       5         16       77       6         17       80       9         18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79<	Score	Score	
2       40       <0.1			
3       40       <0.1	1	40	<0.1
4       43       <0.1	2	40	
5       46       <0.1	3	40	<0.1
6       48       <0.1	4	43	<0.1
7       51       0.1         8       54       0.1         9       57       0.2         10       60       0.4         11       63       1         12       66       1         13       69       2         14       72       3         15       75       5         16       77       6         17       80       9         18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	5		
8       54       0.1         9       57       0.2         10       60       0.4         11       63       1         12       66       1         13       69       2         14       72       3         15       75       5         16       77       6         17       80       9         18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	6		
9       57       0.2         10       60       0.4         11       63       1         12       66       1         13       69       2         14       72       3         15       75       5         16       77       6         17       80       9         18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	7	51	0.1
10       60       0.4         11       63       1         12       66       1         13       69       2         14       72       3         15       75       5         16       77       6         17       80       9         18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	8	54	0.1
11       63       1         12       66       1         13       69       2         14       72       3         15       75       5         16       77       6         17       80       9         18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	9	57	0.2
12       66       1         13       69       2         14       72       3         15       75       5         16       77       6         17       80       9         18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92			
13       69       2         14       72       3         15       75       5         16       77       6         17       80       9         18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	11	63	1
14       72       3         15       75       5         16       77       6         17       80       9         18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	12	66	1
15       75       5         16       77       6         17       80       9         18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	13	69	2
16       77       6         17       80       9         18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	14	72	3
17       80       9         18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	15	75	5
18       83       13         19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	16	77	6
19       86       18         20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	17	80	9
20       89       23         21       92       30         22       95       37         23       98       45         24       101       53         25       103       58         26       106       66         27       109       73         28       112       79         29       115       84         30       118       88         31       121       92	18	83	13
21     92     30       22     95     37       23     98     45       24     101     53       25     103     58       26     106     66       27     109     73       28     112     79       29     115     84       30     118     88       31     121     92	19	86	18
22     95     37       23     98     45       24     101     53       25     103     58       26     106     66       27     109     73       28     112     79       29     115     84       30     118     88       31     121     92	20	89	23
23     98     45       24     101     53       25     103     58       26     106     66       27     109     73       28     112     79       29     115     84       30     118     88       31     121     92	21	92	30
24     101     53       25     103     58       26     106     66       27     109     73       28     112     79       29     115     84       30     118     88       31     121     92	22	95	37
25     103     58       26     106     66       27     109     73       28     112     79       29     115     84       30     118     88       31     121     92	23	98	45
26     106     66       27     109     73       28     112     79       29     115     84       30     118     88       31     121     92	24	101	53
27     109     73       28     112     79       29     115     84       30     118     88       31     121     92	25	103	58
28     112     79       29     115     84       30     118     88       31     121     92	26	106	66
29     115     84       30     118     88       31     121     92	27	109	73
30     118     88       31     121     92	28	112	79
31 121 92	29	115	84
	30	118	88
32 124 95	31	121	92
1 1 1	32	124	95

## **Redmond Sentence Recall Standard Score Conversion Tables: 8;0-8;11**

Ages 8;0-8;5 (N = 84; boys = 40, girls = 44) Confidence Intervals: 68% ±1.63

90% ±2.68 95% ±3.19

Ages 8;6-8;11 (N = 73; boys = 45, girls = 28) Confidence Intervals: 68% ±1.76 90% ±2.89 95% ±3.45

RSR Raw Score	Standard Score	Percentile
0	40	<0.1
1	40	<0.1
2	40	<0.1
3	40	<0.1
4	40	<0.1
5	40	<0.1
6	40	<0.1
7	41	<0.1
8	44	<0.1
9	47	<0.1
10	50	<0.1
11	54	0.1
12	57	0.2
13	60	0.4
14	63	1
15	66	1
16	69	2
17	72	3
18	76	5
19	79	8
20	82	12
21	85	16
22	88	21
23	91	27
24	94	34
25	98	45
26	101	53
27	104	61
28	107	68
29	110	75
30	113	81
31	116	86
32	119	90

RSR Raw Score	Standard Score	Percentile
0	40	<0.1
1	40	<0.1
2	40	<0.1
3	40	<0.1
4	40	<0.1
5	40	<0.1
6	40	<0.1
7	41	<0.1
8	44	<0.1
9	47	<0.1
10	50	<0.1
11	53	0.1
12	56	0.2
13	59	0.3
14	63	1
15	66	1
16	69	2
17	72	3
18	75	5
19	78	7
20	82	12
21	85	16
22	88	21
23	91	27
24	94	34
25	97	42
26	100	50
27	104	61
28	107	68
29	110	75
30	113	81
31	116	86
32	119	90

# **Redmond Sentence Recall Standard Score Conversion Tables: 9;0-9;5**

Ages 9;0-9;5 (N = 26; boys = 15, girls = 11) Confidence Intervals: 68% ±2.94 90% ±4.84 95% ±5.76

RSR Raw Score	Standard Score	Percentile
0	40	<0.1
1	40	<0.1
2	40	<0.1
3	40	<0.1
4	40	<0.1
5	40	<0.1
6	40	<0.1
7	40	<0.1
8	40	<0.1
9	40	<0.1
10	40	<0.1
11	40	<0.1
12	40	<0.1
13	40	<0.1
14	40	<0.1
15	40	<0.1
16	40	<0.1
17	41	<0.1
18	47	<0.1
19	52	0.1
20	58	0.3
21	64	1
22	70	2
23	76	5
24	82	12
25	88	21
26	94	34
27	100	50
28	106	66
29	112	79
30	117	87
31	123	94
32	129	97