THE **RENFREW** LANGUAGE SCALES

Action Picture Test

Instructions

Speechmark

Catherine Renfrew trained as a speech therapist at the Glasgow School of Speech Therapy, qualifying in 1944. She was awarded a Fellowship of the College of Speech Therapists in 1950, resulting from her thesis on speech assessment. As a Fulbright Scholar she attended a post-graduate course at the State University of Iowa 1955-6.

After working mainly with school children in Lancashire and Nottingham she was appointed Chief Speech Therapist to the United Oxford Hospitals in 1953. During 1964-6, with leave of absence, she taught speech pathology as Visiting Lecturer at the University of Toronto. After leaving her post in Oxford in 1973, she travelled widely, lecturing in all five continents.

While working with school children, she began developing norm-referenced speech and language tests to find out whether children, handicapped in spoken language development, made more progress resulting from speech therapy than expected from maturation. The *Articulation Attainment Test* was first published in 1963, the *Action Picture Test* in 1966, the *Word Finding Vocabulary Scale* in 1968 and the *Auditory Discrimination Test* in 1973. There is a New Zealand edition of the *Word Finding Vocabulary Scale* and an American edition of the *Bus Story Test*.

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Preface to the Fourth Edition

Since the publication of the first edition of the *Action Picture Test* in 1966 and its revision in 1971 this assessment has been used in all English speaking countries as a screening test for language development.

In recent years the content of some of the pictures has been criticised as being out of date, and an expansion in the number and type of grammatical constructions was called for (Lloyd, 1986). At the same time the simplicity of the pictures, packaging, questions and scoring was regarded as an asset that should be retained.

Consequently, in 1986, after having gathered critical comments from speech therapists experienced in testing language in children, a revision was embarked on. Trial runs of new pictures and modifications of those in the current edition were carried out by speech therapists in four areas of Britain as well as in Canada, Australia and New Zealand. In mid 1987 a final selection of pictures was made, and responses to questions about these pictures from children in England, Scotland and Ireland were collected and analysed in 1988. Certain changes were made in the scoring compared with that in the 1971 edition.

In the reprinted third edition the question for picture 2 was altered from present to future tense. This involved no changes in any of the *mean* scores but the lower ends of the interquartile ranges for three- and four-year-olds were reduced by one or two points.

In this fourth edition a photocopiable scoring form has been included in response to the many requests received from testers.

Purpose of Test

The test has been designed to fulfil the need for a standardised test that, in a short and simple form, would stimulate children to give samples of spoken language that could be evaluated in terms of information given and the grammatical structures used, viz.

1. words used to convey information, ie nouns, verbs, prepositions
2. present, past and future tenses
3. irregular forms of plural and past tenses
4. simple and complex sentence construction
5. passive voice.

The results can be compared and contrasted with those obtained on the *Reynell Language Development Scales; Language Assessment Remediation Procedure; Test for Reception of Grammar* and the *Bus Story*, a test of continuous speech.

Materials Required

1. The 10 Action Pictures
2. Scoring form
3. Manual for fourth edition.

Use

The test can be given to children from three-year-olds upwards but the results are not standardised for those above eight years of age. It has been devised for the use of speech and language therapists, but psychologists, doctors, teachers and others have found it useful when assessing children's language.

Administration

1. Each child should be tested on his or her own. Any adult present should be asked not to interrupt or comment during the testing.

2. Sit opposite to the child. A few moments may be spent gaining rapport.

3. Holding the bundle of cards in your hand, say, "I've got some pictures here to show you. You listen to the questions, then tell me the answers."

4. Hold up each card in turn so that the picture faces the child, then ask the question printed on the back. Avoid sharing the pictures with the child as this may restrict verbal output.

5. Record each answer in exactly the words spoken by the child, allowing for deviations in pronunciation. Omit irrelevant additional comments.

6. When prompting is considered necessary to produce a fuller response this should, with one exception only, *always be of an indirect nature,* given in an manner indicating that more information is expected. Continue holding up the picture saying "mhm" or "yes" or "and ..." or repeat the child's response on a rising intonation, eg. Card 6.

Examiner:	What has happened to the girl?
Child:	She's fallen down the stairs. (RECORD)
Examiner:	Yes?
Child:	No response.
Examiner:	She's fallen down the stairs ... and?
Child:	She's broken her glasses. (RECORD)

A poor response to questions may be due to lack of observation. Sometimes a child needs to be encouraged to scan the whole picture, eg Card 8.

Examiner: What is the man doing?
Child: Climbing up a ladder. (RECORD)
Examiner: Yes ... Anything else?
Child: He's got a yellow shirt on.
Examiner: Look all round the picture.
Child: Oh, there's a cat up there. (RECORD)

Some answers are the result of conclusions reached rather than what is actually happening and the child has to be questioned again using the same words as those previously used, but adding "actually", eg. Card 8.

Examiner: What is the man doing?
Child: Rescuing the cat. (RECORD)
Examiner: Yes, but what is he *actually* doing to rescue the cat?
Child: He's climbing up the ladder to the roof. (RECORD)

The one exception to this rule occurs when a *direct* question seems the only way to indicate to a child that a fuller answer is required. A *direct* prompt should be given *only once*, eg. Card 7.

Examiner: What has the BIG girl done?
Child: Lifted up the baby. (RECORD)
Examiner: Yes ... Lifted up the baby?
Child: No response.
Examiner: She's lifted up the baby... Go on.
Child: No response.
Examiner: Why has she lifted up the baby?
Child: To post the letter. (NO SCORE)
Examiner: That's right. You should say, She lifted up the baby to post the letter.

One or two *indirect* prompts per picture is enough, and with not more than two pictures.

Likely difficulties

1 Some children are impatient to talk about the pictures before the question has been given. They must be cautioned to wait until they have heard the question.

2 Some are so anxious to see all the pictures quickly that they will verbally 'skim' over the one being presented. It is advisable in these cases to keep the remaining cards out of sight.

3 The examiner will learn by observation and experience how to adjust the speed of presentation to suit the child. It is better to err on the side of slow speech.

4 A few children give inadequate responses to the first four pictures but, when describing later ones, give clear evidence that they have a better language ability than previously demonstrated. It is worth asking them to revise their earlier answers.

Scoring

In scoring responses, Information (verbal formulation) and Grammar (function words and word endings) are distinguished. For example, Answer 5 'catched' is scored as correct (1 point) for Information but loses a point for Grammar. On the other hand, in Answer 5 where 'eaten' is used, it is scored wrong (Nil) for Information but correct (2 points) for Grammar.

If a response is made in a few words which express the idea completely, full credit is given for both Information and Grammar. If extra words are used which do not add to the information content, these should be ignored when scoring or equated with the least possible words required to express the idea, eg. Card 7. What has the BIG girl done?

		Info	Gram
1st Child:	Lifted up the baby to post the letter	4	3
2nd Child:	She has lifted up the little boy so that he can put the letter into the letter box.	4	3

Special care must be taken when scoring Grammar for such responses.

Only the most common responses are listed. Examiners will have to use their judgement in evaluating unusual responses. It is advisable to note in the spaces left available on pages 9–14 details of personal evaluations so that, when these responses are made by another child at a later date, consistency in the scoring will be observed. This is particularly useful when a use of local vocabulary or grammatical construction differs from the standard used in the manual.

The scoring values have, in a number of cases, been difficult to decide on. Final decisions have been made on the basis of the type of responses given by children who received the highest total marks.

Information Scores

	Responses		
Picture Number	1 point	½ point	Nil
1	cuddle, hug, hold, carry, play with teddy, bear, teddy bear	pat, kiss doll, baby	got her, it, him
			(Possible Total 2)
2	put on, pull off, take off, get off girl, daughter wellington, wellie, boot	hold boy shoe	got, has her, his it
			(Possible Total 3)
3	{ tied, strapped, locked, chained (all with or without 'up') to, on, on to, with post, pole, wood, stake, stick	fence	
			(Possible Total 3)
4	riding, on, make (with 'jump') horse { jump, jump over, jump with going over fence, gate, hedge	racing, in a race donkey, pony { going on, over (without verb)	with
			(Possible Total 4)
5	{ catch, grab, step on put paws on, play with, jump on mouse	{ get, chase, kill take, on rat, gerbil	eat, find
			(Possible Total 2)

Information Scores

Picture Number	1 point	½ point	Nil
6	fall, trip, slide, slip down, on, over stairs, steps break, crack, smash glasses, spectacles	off floor fall off	
			(Possible Total 5)
7	{ lift (up), hold up, put up, { pick up baby, boy, brother { post, mail, put in letter/mail/ { post box letter, (post) card	{ hold, carry { help, let put in	got him
			(Possible Total 4)
8	climb (up/on), go up/to, try to go up ladder get, fetch, reach, save, rescue cat, kitten, puss(y) on, off, down, (from/off/from off) from roof, top of house	on, up (without 'climb') steps catch, for dog, toy house (without 'top of')	chimney
			(Possible Total 6)

Information Scores

Picture Number	1 point	½ point	Nil
9	cry, shout, scream dog, puppy { has, has got, take, bite, nick { chew, snatch, won't give back, { steal, take off, get, eat, play with slipper, shoe	yawn	
			(Possible Total 4)
10	lady, woman, mother, mum(my) apple, tomato, orange { drop, fall, come, lose, run { (all with or without 'out of', { 'from', 'down', through') hole, burst bag boy, man pick up, (try to) get, fetch, steal	 ball out (without 'of') basket take, find, catch	she
			(Possible Total 7)

Grammar Scores

Picture Number	Examples		Grammar Score
1	Present participle	cuddling, hugging	1
2	Future tense	pull–, put–	1
	Poss, noun or fem poss. pronoun or preposition with noun	girl's, her, on the girl	1
		Possible Total	2
3	Nom. sing. pronoun or noun	it, he, she, the dog, someone his/her master, his/her lead	1
	Auxiliary	is, has, was	1
	Passive	got	1
	– appropriate to form of question	been	2
	Past tense or past participle	tied	1
		Possible Total	5
4	Present, participle (score one only)	jumping, riding, going	1
5	Past tense verb, regular ending	catched, killed	1
	Past tense verb, correct irregular ending	caught, got	2
	Plural noun regular ending	mouses	1
	Plural noun, correct irregular ending	mice	2
		Possible Total	4

Grammar Scores

Picture Number	Examples		Grammar Score
6	Fem. nom. sing pronoun or noun	she, the girl	1
	Past tense verb, regular form	falled, tripped	1
	Past or perfect tense verb, correct irregular form	has fallen, fell	2
	Incorrect combination for past tense	has fell, after falling	1
	Coordinating conjunction	and	1
	Past tense verb, regular ending	breaked, smashed	1
	Paste tense verb, correct irregular ending consistent with verb tense in main clause	broken (with 'has' above } broke (with 'fell' above) }	2
	Past tense verb but inconsistent with verb in main clause	broke (with 'has fallen') } broken (with 'fell') }	1
		Possible Total	6
7	Past tense verb	lifted, helped, tried to help	1
	Subordinating conjunction	to*, so (that), because	2
	Coordinating conjunction	and	1
		Possible Total	3
8	Present participle or future	climbing, going to fetch	1
	Subordinating conjunction	to*, so (that), because	2
	Coordinating conjunction	and	1
		Possible Total	3

Grammar Scores

Picture Number	Examples		Grammar Score
9	Present participle	crying	1
	Subordinating conjunction	because	2
	Coordinating conjunction	and	1
	Present tense verb regular ending	eating, has got	1
	Past tense verb regular ending	taked, stealed, chewed, bited	1
	Past or perfect tense verb correct irregular ending	has taken/bitten, took, bit	2
		Possible Total	5
10	Main clause subject: noun phrase or noun with determiner	There is a/ A/ The lady, boy, apple(s), hole, bag	1
	Main clause verb any tense	has, is falling, dropped going to pick, got	1
	Conjunction (score only one) –Subordinating	because, to*	2
	–Coordinating	and	1
	Relative pronoun	that, which, who	2
	Subsidiary verb (score only one) any tense	picking, going to pick, came	1
	Pronoun referring to noun previously used	it, them, one, they	1
		Possible Total	8

*It is important to discriminate between 'to', the marker in future tense (0 points) and 'to' meaning 'in order to' (2 points). Eg "going to get a cat" (1 point) in contrast to "going up the ladder to get a cat" (3 points).

Example 1

Picture Number	Boy 6 years 11 Months	Information (italics)	Grammar (underlinings)
1	hugging her teddy bear	2	1
2	put on her boots	2	1
3	he's been tied on to that	2	5
4	he's going over there on his horse	3	1
5	caught them	1	2
6	she's fallen and broken them	2	6
7	lifted up the baby to post the letter	4	3
8	he's getting a cat down from off up there	3	1
9	crying because he's taken his shoe	3	5
10	The apples are down there because she's got a hole in her thing and he's getting them	3	6
	Total	25	31
	Grammar Score Expected		20

Example 2

Picture Number	Boy 6 years 1 Month (pupil in language unit)	Information (italics)	Grammar (underlinings)
1	cuddling a teddy bear	2	1
2	put boots on them	2	0
3	tie it on a fence	3	0
4	ride on a donkey; the donkey jump over	3½	0
5	getting a mouse	1½	0
6	fall down the stairs and broken glasses	5	3
7	picking up a baby; he putting that in the post box	3	0
8	get pussy down a roof	4	0
9	him eating his slipper and him cry	3	2
10	Drop apples and the man pick it up	4	1
	Total	31	7
	Grammar Score Expected		24

Norms

In each age group the norms for boys were very slightly below those for girls but in no case was the difference statistically significant.

Information			
Age	Mean	Middle half of range	Standard deviation
3 6-11	24	19–27	6.18
4 0-5	27	23–30	5.33
4 6-11	29	25–32	5.32
5 0-5	30	27–33	5.02
5 6-11	31	29–35	4.97
6 0-5	33	31–36	3.93
6 6-11	34	31–37	4.62
7 0-5	35	33–37	3.45
7 6-11	36	34–38	3.19
8 0-5	36	35–38	2.80

Grammar			
Age	Mean	Middle half of range	Standard deviation
3 6-11	15	8–19	5.59
4 0-5	20	14–23	5.84
4 6-11	21	17–25	5.66
5 0-5	23	19–26	5.68
5 6-11	24	21–27	5.11
6 0-5	26	23–29	4.32
6 6-11	28	25–30	4.08
7 0-5	29	26–31	3.97
7 6-11	30	27–32	4.03
8 0-5	30	28–32	3.62

The Grammar score is, to some extent, dependent on the *amount of* Information given and its proportion to the Information score rises a little more steeply with age. It should be around 75% of the Information score at four and five years, 80% at six years and 82% at seven years and over.

Low score on Grammar

If the Grammar score comes more than five points below that *expected* from the Information score, the following possibilities should be investigated:

1. Use of dialectal variations in Grammar.

2. Use of verbs with regular past tense endings in Answers 5 and 6, eg. kill, trip, smash, thereby accounting for up to three marks not available for Grammar scoring.

3. Are word endings marking tenses and plurals absent due to defective articulation? Use an articulation test, eg. *Edinburgh Articulation Test.*

4. Is there a language disorder? Use the Language Assessment Remediation Procedure (LARSP).

Low score on Information

1. If the Information score is equal to or below the Grammar score, the following possibilities should be investigated:

2. Is verbal expression inhibited?

3. Is there a marked word-finding difficulty? Use the *Word Finding Vocabulary Scale.*

   Does the child live in an environment lacking verbal stimulation?

Low scores on both Information and Grammar

Where both scores are below the middle half of the range appropriate to the child's age, the following possibilities should be investigated:

1. Is the mental age below chronological age? Use a non-verbal intelligence test, eg. *Progressive Matrices.*

2. Is receptive language so deficient that the child was unable to interpret the questions correctly? Use the receptive side of the *Reynell Development Language Scales* (RDLS) or *Test for Reception of Grammar* (TROG).

3. Is the child more interested in expressing his own ideas than in answering specific questions? Use the *Bus Story,* a test of continuous speech.

Use of Adult Forms of Grammar		
	4 Years	7 Years
Passives (has been tied)	18%	71%
Irregular past tense correct caught	39%	72%
has fallen or fell	42%	66%
has broken or broke	36%	69%
Irregular plural correct	58%	81%
All irregulars correct	7%	38%
Subordinate conjunctions to, or so, or so that (used twice)	23%	72%
because	51%	94%
All subordinate conjunctions used when appropriate	19%	70%

General Information

The Action Picture Test was developed originally using pictures from the English Language Scale in The Language and Mental Development of Children by AF Watts whose publishers, Messrs George G Harrap and Co Ltd, kindly gave permission to use them.

Considerable modifications were made to these drawings throughout the trial runs to avoid misunderstandings. New pictures of similar activities were designed and used on trial runs. Eventually, when the first edition was published in 1966 only five of Watts' 24 pictures were used, all considerably modified. That edition consisted of nine pictures which had been found to elicit fairly consistent responses from the children and each picture had a score highly correlated with the total score. Two new pictures were incorporated in the second edition published in 1971, replacing two which were withdrawn. The choice of pictures was made on the same basis as formerly viz consistency of response and high correlation with total score. Modifications in the drawings were made throughout the trial runs in urban and rural areas of Great Britain, Ireland, Canada, Australia and New Zealand.

Standardisation

During 1987 and 1988 the third edition was used to test 594 children in and around Oxford, London and Tyneside in England; Fort William, Girvan and Glasgow in Scotland and Dublin in Ireland. The testing was targeted on children in Social Class III areas. A small proportion in Social Class IV was partly balanced out by a small number in Social Class II. This latter group consisted of three-and-a-half and four-year-olds in nursery schools. The scores obtained from children in non-English speaking homes, and those in language units, were not included in the standardisation.

Age distribution (years)	3½	4	5	6	7	8
	52	119	117	122	125	59

Roughly equal numbers of boys and girls were tested at each age group.

Just over a third of the children, all ages, were tested by the author; almost another third by experienced speech therapists well acquainted with the previous edition of the test and the remainder by students after sessions of instruction in administration. All students' results were rigorously examined and, when it appeared that some deviation from the rules had occurred, these results were deleted. All the scoring of results was carried out by the author.

Refusal to carry out the test was encountered in a few of the youngest children seen by the author. Some of these children were regarded by their teachers as being able to communicate normally for their age, but were either exceedingly shy or intransigent. Others were recognised as having language difficulties, their consciousness of which prevented them from responding to an oral test. This latter group consisted of around 10 per cent of three-year-olds and around 5 per cent of four-year-olds.

The means and semi-interquartile ranges of the scores were calculated first for each whole age group, the age-to-months being fairly evenly distributed throughout each year of age. Scores were calculated for only those three-year-olds with ages over three years five months and similarly for the eight-year-olds under eight years six months. From graphs drawn using these results interpolations were made to provide norms for each half-year age level.

Reliability

Test-retest

No large scale test-retest was carried out but random testing revealed little difference in responses if the retest was given within a month of the original.

Recording responses

Three hundred and forty-one responses to individual pictures were recorded simultaneously by two student-examiners. Thirty deviations were found between the responses recorded. These included words recorded by one student but noted as unintelligible by the other. Auxiliaries and the tense endings varied in other cases. However only 11 of these deviations made differences in the scoring and these by only one point in each case.

Scoring responses

Sample sets of responses from 12 children ranging from three and a half to eight years were scored separately by four speech therapists. On first inspection discrepancies between results affected each set's score by over 3 per cent. These were due mainly to errors or lack of specificity in the scoring tables. Once these were corrected, full agreement was found in the scoring for Information and just over 98 per cent for Grammar.

Validity

In a small study of five- and six-year-old children with moderate learning difficulties and chronologically age-matched 'normal' subjects (Brown, 1988), high correlations were found between the *Carrow Elicited Language Inventory* and the *Action Picture Test* Grammar scale.

No test sufficiently similar to the *Action Picture Test* was found with which the Information scale could be compared for validity. When scores for children in the top and bottom quarters of the range were discussed with their teachers, disagreements were almost entirely regarding those with scores on the borderlines. In only three instances were there marked disagreements.

Acknowledgements

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