

## DOCUMENT RESUME

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**IDENTIFIERS** \*The Research Instruments Project; TRIP

**ABSTRACT**

Designed to measure the subject's ability to discriminate among alphabetic letters varied over three spatial dimensions (left-right, vertical, and combination left-right and vertical), the tests can be administered in groups and take about twenty minutes to complete. Ten letters of the alphabet were selected for assymetry (for example, b-d) and matching (n-u). Each letter is represented in two items and is tested when the letters are in isolation, in the context of words, and in the context of words in sentences. [This document is one of those reviewed in The Research Instruments Project (TRIP) monograph "Measures for Research and Evaluation in the English Language Arts" to be published by the Committee on Research of the National Council of Teachers of English in cooperation with the ERIC Clearinghouse on Reading and Communication Skills. A TRIP review which precedes the document lists its category (Reading), title, author, date, and age range (preschool, primary), and describes the instrument's purpose and physical characteristics.] (RB)

# NCTE Committee on Research

The Research Instruments Project (TRIP)

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CS 20/329

**Category:** Reading  
**Title:** Letter Directionality Test  
Word Directionality Test  
Sentence Directionality Test

**Author:** Brian T. Twohig

**Age Range:** Pre-School - Primary

**Description of Instrument**

**Purpose:** This test is designed to measure the subject's ability to discriminate between alphabetic letters varied over three spatial dimensions (left-right, vertical, combination left-right, vertical).

**Date of Construction:** 1972

**Physical Description:** Ten letters of the alphabet were selected for the following reasons. Firstly, the letter had to be asymmetrical in order that it could be drawn in different spatial orientations without becoming an actual match of itself (i.e. b-d versus v-v). Secondly, each letter when spatially transformed matched another letter (n-u) or closely approximated another letter (h-y). Each letter is represented in two items and is tested when the letters are in isolation, in the context of words, and in the context of words in sentences. The tests can be administered in groups and take about twenty minutes to complete. The pupils are instructed to put their finger on the first letter (word, sentence), and to find a letter, (word, sentence) just like it and put a mark through it with a pencil.

Letter Directionality

q                    g    d        p    g    b

Word Directionality

weh                    nib        weh        wey    weh    wep

Sentence Directionality

Sit on the chair.

Sit on the chair.

Sit in the shade.

Sit on the chair.

Sit on the chair.

Sit on the chair.

Validity, Reliability and Normative Data:

Normative data are based on the performance of thirty boys and thirty girls who were completing grade one. Means and standard deviations are provided for scores obtained, and for times taken to complete the test, for high, average and low readers. Content validity is discussed for the test. Letters were rotated so that they represented the dimensions "left-right", "vertical", and "combination left-right and vertical." The order of test items was randomized as was the order of letters in words and sentences. Correlations between test scores and word accuracy scores on The Neale Analysis Test of Reading Ability were .33, .13, .56, .48, for letters, words, sentences and total, respectively. All coefficients except the second were significant at the .01 level. The split-half method was used to establish reliability for the test. When corrected by the Spearman-Brown formula for length, the coefficients were .66, .41, .90 for letters, words and sentences, respectively.

Ordering Information:

EDRS

**Related Documents:**

**Twohig, Brian T. An investigation into the Relationship Between  
Body Directionality, Letter Directionality, and Reading  
Achievement of Grade One Children. Unpublished Master's Thesis.  
The University of Alberta, Edmonton, Alberta, 1972.**

Brian T. Twohig

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Brian T. Twohig  
"Letter Directionality Test"  
"Word Directionality Test"  
"Sentence Directionality Test"  
1972

g	p	q	o	j	d
w	x	m	v	w	x
q	g	d	p	q	b
f	t	f	j	t	t
h	n	y	k	y	h
u	u	n	u	m	n
b	b	d	p	l	q
t	t	j	f	k	t
y	y	l	l	v	y
d	q	d	p	b	j
r	i	c	l	r	j
n	u	l	n	m	u
h	h	u	u	k	d
b	q	d	l	p	b
y	y	l	v	l	y
f	j	f	t	j	t
r	c	j	r	i	l
d	q	j	b	d	p
n	u	v	n	u	n
t	f	t	j	k	t
q	p	q	d	q	b
u	m	u	n	u	n

ges	ges	pon	ðes	ges	ðes
lem	leE	lew	lem	leE	kiz
weh	nib	weh	wey	werf	wep
ðek	dek	laf	pek	bek	qek
yev	lev	yev	lev	ruj	yev
zef	zet	suk	zef	zet	zet
rec	lec	vin	rec	rec	rec
ved	nog	vep	ved	veb	veq
ieh	ieu	ien	ierf	kac	ieu
tek	tek	fek	lud	tek	Jek
geq	geq	ged	joh	gep	geli
jeu	jeu	jerf	jeh	zas	jeu
fedal	fedal	ledal	kelan	fedal	Jedal
cevar	cenac	cevaj	ceval	cevai	cevar
meuav	merlav	recam	meuvav	meuav	mehav
jeyag	jeyag	jeyag	jeyag	jeyog	pejap
qejac	geyaj	qejac	dejac	bejac	pejac
gekob	gekap	gekaq	gekad	gekob	jetar
veham	veram	revac	vevam	verfam	vehom
kehak	kevak	kertak	kehak	ledat	kepak
dekal	telat	dekal	bekal	qekal	pekal
delat	delaf	delat	delat	kedan	delat

The water is cold.

The mater is cold.

The waler is cold.

The water is cold.

The waler is cold.

The movie is over.

They found gold.

They found gold.

They found dold.

They found gold.

They sound poor.

They found bold.

The hen is white.

The man is right.

The den is white.

The 4en is white.

The hen is white.

The Pen is white.

I wash in the tub.

I wash in the tup.

I wash in the tuq.

I wash in the tud.

I work in the sea.

I wash in the tub.

He is a good boy.

It is a hard toy.

He is a good boy.

He is a good boyl.

He is a good boy.

He is a good boyl.

The water is free.

The water is free.

The water is tree.

The water is free.

The paper is blue.

The water is free.



The car is red.

The car is red.

The car is red.

The tar is hot.

The car is red.

The car is red.

The dog is heavy.

The bog is heavy.

The log is light.

The qog is heavy.

The dog is heavy.

The pog is heavy.

It was an ant.

It was an aut.

It ran to him.

It was an art.

It was an ont.

It was an out.

Sit on the chair.

Sit on the chair.

Sit in the shade.

Sit on the chair.

Sif on the chair.

Sit on the chair.

You walk quickly.

You walk buickly.

You walk quickly.

You walk puickly.

You wait quietly.

You walk duickly.

He is up high.

He is np high.

He is up high.

He is at home.

He is rp high.

He is up high.

Some roads are long.

Some roobs are long.  
Some roots are long.  
Some roods are long.  
Some roops are long.  
Some roaqs are long.

They have nine cats.

They have more cats.  
They have niue cats.  
They have nirre cats.  
They have niue cats.  
They have nine cats.

The old tile is broken

The old tile is broken.  
The old file is broken.  
The old jile is broken.  
The old lile is broken.  
The old line is broken.

The bad boy ran home.

The dad boy ran home.  
The sad boy ran home.  
The bad boy ran home.  
The pad boy ran home.  
The qad boy ran home.

He likes to lough.

He likes to laugh.  
He likes to laugh.  
He likes to langh.  
He likes to teach.  
He likes to larrgh.

The roof is leaking.

The root is leaking.  
The root is leaking.  
The roof is leaking.  
The roof is leaking.  
The room is leaking.

A queen lives here.

A crane lives here.

A duoen lives here.

A pueen lives here.

A queen lives here.

A bueen lives here.

Mother held the baby.

Mothei held the baby.

Mcrrtha held the baby.

Mother held the baby.

Mother held the baby.

Mothei held the baby.

The yard is green.

The yard is green.

The lard is green.

The λard is green.

The card is green.

The yard is green.

The wall is very high.

The wall is very righ.

The wall is very high.

The wall is very hard.

The wall is very Uigh.

The wall is very High.

TABLE 3

MEANS AND STANDARD DEVIATIONS OF DIRECTIONALITY TESTS OVER HIGH, AVERAGE AND LOW READING GROUPS

		Directionality Tests					
		Body Total=30	Letters Total=20	Words Total=20	Sentences Total=20	Total Total=60	
READING	High	$\bar{X}$ 28.45 S.D. 2.50	$\bar{X}$ 19.29 S.D. 1.41	$\bar{X}$ 17.34 S.D. 1.89	$\bar{X}$ 15.95 S.D. 2.63	$\bar{X}$ 52.54 S.D. 5.24	
	Average	$\bar{X}$ 25.00 S.D. 4.21	$\bar{X}$ 19.25 S.D. .80	$\bar{X}$ 17.05 S.D. 2.28	$\bar{X}$ 14.75 S.D. 2.77	$\bar{X}$ 50.45 S.D. 4.41	
LEVEL	Low	$\bar{X}$ 24.75 S.D. 3.89	$\bar{X}$ 18.00 S.D. 2.05	$\bar{X}$ 16.35 S.D. 2.06	$\bar{X}$ 10.70 S.D. 3.48	$\bar{X}$ 45.05 S.D. 6.08	
		78.20	56.54	50.74	41.40		

TABLE 11

MEANS AND STANDARD DEVIATIONS OF DIRECTIONALITY  
TEST TIMES OVER HIGH, AVERAGE AND  
LOW READING GROUPS

		DIRECTIONALITY TESTS			
		Letter	Word	Sentence	Total
Reading	High	$\bar{X}$ 109.90	157.95	283.65	551.50
		S.D. 28.13	36.90	70.47	107.69
Achievement	Average	$\bar{X}$ 122.40	180.55	322.85	625.80
		S.D. 25.14	40.49	104.29	140.90
Groups	Low	$\bar{X}$ 144.55	226.20	394.80	755.55
		S.D. 39.45	71.05	108.17	164.30