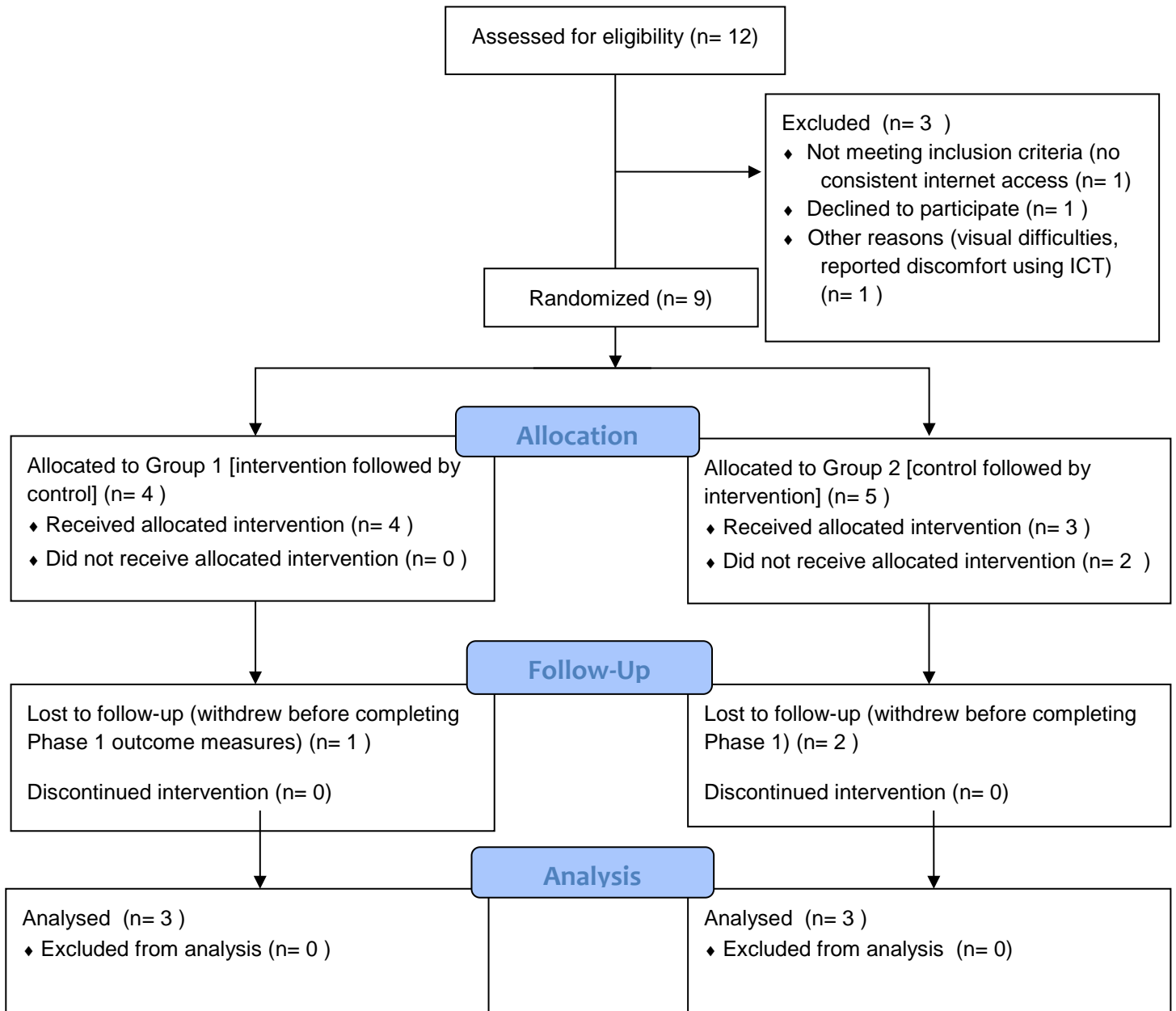


## Participant Flow



## Baseline Characteristics

Participant Group	<sup>^</sup> John 1	<sup>^</sup> Isobel 1	<sup>^</sup> Thomas 1	<sup>^</sup> Damian 2	<sup>^</sup> Gerry 2	<sup>^</sup> Eleanor 2	<sup>^</sup> Mike 2***	<sup>^</sup> Greta 2***	<sup>^</sup> Timothy 1***
Gender	male	female	male	male	male	female	male	female	male
Age (years)	32	51	58	40	67	67	61	44	58
Time post stroke (years)	7.8	7.9	4.7	2.8	7.7	4.7	3.2	3.6	4.7
<sup>^</sup> Aphasia Type & <sup>^</sup> Severity	Broca's Moderate	Broca's Severe	Anomia Mild	Wernicke's Moderate	Transcortical motor Moderate	Broca's Severe	Anomia Mild	Broca's Severe	Broca's Severe
WAB AQ	55.5	36.9	94.6	52.4	67.1	18.4	78.8	30.4	38.3
Spontaneous Speech	10	7	19	16	11	3	16	4	9
AV Comprehension	6.05	6.85	10	5	7.95	5.1	7.9	7.2	7.25
Repetition	6.4	1.7	8.8	3	8	0.8	7.6	2.4	0.6
Naming/ Word Finding	5.3	2.9	9.5	2.2	6.6	0.3	7.9	1.6	2.3
e-ACT									
Sentences (/48)	32	24	42	35	38	18	32	38	31
Paragraph (/14)	12	4	14	10	10	3	11	9	9
Conversation (/10)	7	9	10	5	9	6	9	6	6
TROG Blocks (sentences)									
Eye tracker	2 (20)	2 (21)	10 (65)	3 (23)	6 (37)	1 (14)	1(15)	5(40)	3(31)
Paper version	2 (25)	1 (13)	10 (64)	4 (35)	8 (53)	0 (11)	6(38)	4(37)	3(31)
<b>Baseline Stability</b>	$X^2=1.067$ , $p=0.302$	$X^2=4.083$ , $p=0.039$	$X^2=0.000$ , $p=1.000$	$X^2=8.643$ , $p=0.002$	$X^2=9.375$ , $p=0.002$	$X^2=0.308$ , $p=0.581$	$X^2=21.04$ , $p=0.0001$	$X^2=0.235$ , $p=0.6276$	$X^2=0.056$ , $p=0.8137$
RBANS									
Baseline 1									
Total Scores	44	46	77	47	50	43	62	50	43
Immediate Memory	40	44	81	40	44	40	49	40	40
VSC	62	66	92	84	66	66	84	109	64
Language	40	40	79	40	74	40	78	40	40
Attention	43	40	85	43	46	40	49	40	40
Delayed Memory	49	60	71	52	56	40	89	52	40
Baseline 2									
Total Scores	47	45	73	47	54	42	63	49	43
Immediate Memory	49	40	61	40	49	40	65	40	40
VSC	72	78	92	78	81	58	78	109	64
Language	44	40	79	40	74	40	78	40	40
Attention	40	40	79	46	53	40	49	40	40
Delayed Memory	52	48	81	52	60	40	84	48	40
<b>Baseline Stability</b>	$Z=-1.761$ , $p=0.078$	$Z=-2.72$ , $p=0.785$	$t(4)0.650$ , $p=0.551^{\#}$	$Z=-0.447$ , $p=0.655$	$Z=-1.826$ , $p=0.068$	$Z=-1.342$ , $p=0.180$	$Z=0.000$ , $p=1.000$	$Z=-1.000$ , $p=0.317$	$Z=0.000$ , $p=1.000$
MOCA (/30)	14	10	19	11	12	1	14	5	2
SAQOL-39									
Total Score	3.46	4.64	3.9	3.95	2.54	3.49	2.3	3.93	4.41
Physical	4.18	4.18	4.41	4.06	3.65	3.65	3.17	4.03	4
Communication	2.29	5	2.86	3.57	1.14	3.57	1.57	1.64	4.29
Psychosocial	3.27	5	4.18	4.09	1.91	3.55	1.73	4.86	4.91
Energy	3	5	2.75	3.75	2	2.5	1.5	5	5
Aphasia Accessible QoL									
Total Score	61.07	0.3	51.9	45.7	62.7	73.3	53.5	59.1	0
Comprehension	63.1	0.4	35.9	44.1	62.7	67.3	47.43	22.57	0
Expressive	59	0.3	68	47.2	62.6	79.2	59.6	95.6	0
PALPA 47 (/40)	36	28	40	31	39	27	40	33	34
VAST (/40)	27	22	40	34	30	24	34	35	36
PALPA 7 (/24)									
Baseline 1	24	17	24	20	23	0	23	20	7
Baseline 2	24	20	23	19	22	0	24	19	8
<b>Baseline Stability</b>	#	$X^2=0.800$ , $p=0.375$	$X^2=0.000$ , $p=1.000$	$X^2=1.500$ , $p=0.219$	$X^2=0.000$ , $p=1.000$	$X^2=0.000$ , $p=1.000$	$X^2=0.000$ , $p=1.000$	$X^2=0.500$ , $p=0.4795$	$X^2=0.000$ , $p=1.000$
PALPA 8 (/30)									
Baseline 1	20	15	26	8	20	1	26	11	0
Baseline 2	19	11	26	9	20	0	23	14	0
<b>Baseline Stability</b>	$X^2=0.000$ , $p=1.000$	$X^2=1.125$ , $p=0.289$	$X^2=0.000$ , $p=1.000$	$X^2=0.000$ , $p=1.000$	$X^2=0.000$ , $p=1.000$	$X^2=0.000$ , $p=1.000$	$X^2=1.125$ , $p=0.2888$	$X^2=0.000$ , $p=1.000$	##
PALPA 12 (/36)									
Baseline 1	3	0	33	0	12	0	33	0	0
Baseline 2	3	0	34	0	19	0	25	0	0
<b>Baseline Stability</b>	$X^2=0.000$ , $p=1.000$	##	$X^2=0.000$ , $p=1.000$	##	$X^2=3.273$ , $p=0.065$	##	$X^2=3.273$ , $p=0.0704$	##	##

Participant Group	<sup>^</sup> John 1	<sup>^</sup> Isobel 1	<sup>^</sup> Thomas 1	<sup>^</sup> Damian 2	<sup>^</sup> Gerry 2	<sup>^</sup> Eleanor 2	<sup>^</sup> Mike 2 <sup>***</sup>	<sup>^</sup> Greta 2 <sup>***</sup>	<sup>^</sup> Timothy 1 <sup>***</sup>
PALPA 53 (i40)	16	0	36	0	0	0	16	0	0
Baseline 1	19	0	38	0	0	0	16	0	0
Baseline 2									
<b>Baseline Stability</b>	$X^2=1.125,$ $p=0.289$		$X^2=0.250,$ $p=0.625$			$X^2=0.364,$ $p=0.5464$			
<b>Technology Screen</b>									
Usage change post stroke	No	No	No	No	No	Yes( $p=.016$ )	No	No	Yes( $p=.006$ )
Frequency of use changed	No	No	No	No	No	Yes( $p=.008$ )	Yes( $p=.009$ )	No	Yes( $p=.000$ )
Confidence changed	Yes( $p=.001$ )	No	No	Yes( $p=.000$ )	No	Yes( $p=.013$ )	Yes( $p=.002$ )	Yes( $p=.038$ )	Yes( $p=.001$ )
<b>Hearing Screen</b>	WNL	WNL	**	WNL	**	**	WNL	WNL	**

<sup>^</sup>Pseudonyms

\*Aphasia type and severity measured using Western Aphasia Battery

#Meets assumptions for t-test

##unable to compute statistic

\*\*hearing outside the threshold of 40db at 4kHz in one or both ears but average of four speech frequencies (500Hz, 1kHz, 2kHz & 4kHz) indicates hearing within appropriate limits for study inclusion

\*\*\*Withdrew from study

### Primary outcome measures - Group 1 (Phase 1 = intervention / Phase 2 = control)

Test	^John					^Isobel					^Thomas				
	Baseline	Post Phase 1	Post Phase 2	Follow up 1	Follow up 2	Baseline	Post Phase 1	Post Phase 2	Follow up 1	Follow up 2	Baseline	Post Phase 1	Post Phase 2	Follow up 1	Follow up 2
WAB AQ	55.5	55.8	53.5	52.2	57.5	36.9	31	31.2	34.2	36.9	94.6	95.8	96	96.4	96.2
Spontaneous Speech	10	10	10	10	11	7	5	5	6	7	19	19	19	19	19
AV Comprehension	6.05	5.9	6.55	6.1	6.25	6.85	6.3	5.9	6.55	6.45	10	10	10	9.8	9.8
Repetition	6.4	6.5	6	5.4	6.4	1.7	2	1.4	1.6	1.6	8.8	9.2	9.6	9.8	9.8
Naming/Word Finding	5.3	5.5	4.2	4.6	5.1	2.9	2.2	3.3	3	3.4	9.5	9.7	9.2	9.6	9.5
e-ACT															
-Sentence	32	43	43	35	40	24	33	35	36	31	42	47	47	46	48
-Paragraph	12	12	11	11	13	4	10	10	11	11	14	14	13	13	12
-Conversation	7	10	10	10	9	9	9	6	6	8	10	10	8	10	9
TROG	2(20)	3(30)	4(31)	2(20)	4(33)	2(21)	2(17)	4(36)	2(25)	2(22)	10(65)	15(71)	14(68)	11(68)	14(71)
^ Pseudonym															

### Primary outcome measures - Group 2 (Phase 1 = control / Phase 2 = intervention)

Test	^Damian					^Gerry					^Eleanor				
	Baseline	Post Phase 1	Post Phase 2	Follow up 1	Follow up 2	Baseline	Post Phase 1	* Post Phase 2	Follow up 1	Follow up 2	Baseline	Post Phase 1	Post Phase 2	Follow up 1	Follow up 2
WAB AQ	52.4	52.9	55.5	56.4	55.4	67.1	80.2		75.8	75.65	18.4	19.6	17.5	21.4	21.3
Spontaneous Speech	16	16	16	16	16	11	15		14	14	3	4	2	5	4
AV Comprehension	5	5.75	6.15	6.2	5.8	7.95	8.7		8.2	8.75	5.1	5.1	5.85	5.1	5.65
Repetition	3	1.8	2.6	3.4	3	8	9.1		8.8	8.8	0.8	0.5	0.6	0.3	0.4
Naming/Word Finding	2.2	2.9	3	2.6	2.9	6.6	7.3		6.9	6.1	0.3	0.2	0.3	0.3	0.6
e-ACT															
-Sentence	35	31	29	37	31	38	39		43	43	18	26	19	22	26
-Paragraph	10	10	11	11	12	10	13		12	12	3	9	9	5	6
-Conversation	5	6	5	4	6	9	10		9	8	6	5	5	5	6
TROG	3(23)	0(15)	4(38)	2(23)	1(21)	6(37)	6(41)		11(61)	9(54)	1(14)	1(16)	1(15)	0(12)	0(12)
^ Pseudonym															
* Did not attend this outcome measurement sessions															

## Secondary outcome measures - Group 1 (Phase 1 = intervention / Phase 2 = control)

Test	^John					^Isobel					^Thomas				
	Baseline	Post Phase 1	Post Phase 2	Follow up 1	Follow up 2	Baseline	Post Phase 1	Post Phase 2	Follow up 1	Follow up 2	Baseline	Post Phase 1	Post Phase 2	Follow up 1	Follow up 2
RBANS -TS	47	45	46	48	52	46	45	44	47	46	77	71	71	72	77
-Immediate Memory	49	40	44	53	61	44	40	44	44	44	81	65	65	76	85
-VSC	72	69	78	78	78	66	72	66	72	69	92	96	84	78	84
-Language	44	44	40	47	40	40	40	40	40	40	79	79	79	82	82
-Attention	40	40	43	43	40	40	40	40	40	40	85	79	64	82	82
-Delayed Memory	52	48	48	48	77	60	48	48	60	56	71	68	94	71	75
SAQOL-39 TS	3.46	3.31	2.87	3.69	3.18	4.64	4.89	4.68	4.79	4.69	3.9	3.74	4.26	4.18	4.13
-Physical	4.18	4.06	3.88	4.24	3.94	4.18	4.71	4.47	4.76	4.76	4.41	4.44	4.41	4.59	4.53
-Comm	2.29	2.29	2.29	3.57	1.96	5	5	4.43	4.43	3.86	2.86	2.86	3.43	3.29	3.71
-Psychosocial	3.27	3	2.18	3.36	3	5	5	5	5	5	4.18	3.45	4.73	4.45	4.09
-Energy	3	2.77	1.5	2.5	2.75	5	5	5	5	5	2.75	3.25	3.75	3.25	3.25
AAQoL (total)	61.07	65.7	70.5	66.1	68.2	0.3	15.5	15.5	15.5	15.5	51.9	34.7	32.6	34.9	29.2
-Comprehension	63.1	63.1	65	62.1	66.4	0.4	14.3	14.3	14.3	14.3	35.9	35.9	27.1	25.7	24.3
-Expression	59	68.2	76	70	70	0.3	16.7	16.7	16.7	16.7	68	68	38	44	34
PALPA 7	24	24	24	24	22	17	21	21	21	20	24	23	24	23	24
PALPA 8	20	18	22	22	21	15	12	14	10	9	26	25	26	27	27
PALPA 12	3	5	1	2	1	0	0	0	0	0	33	32	30	35	34
PALPA 53	16	17	16	18	20	0	0	0	0	0	36	38	38	34	36

^Pseudonym

## Secondary outcome measures - Group 2 (Phase 1 = control / Phase 2 = intervention)

Test	^Damian					^Gerry					^Eleanor				
	Baseline	Post Phase 1	Post Phase 2	Follow up 1	Follow up 2	Baseline	Post Phase 1	* Post Phase 2	Follow up 1	Follow up 2	Baseline	Post Phase 1	Post Phase 2	Follow up 1	Follow up 2
RBANS -TS	47	47	48	47	47	50	51		51	49	43	43	43	43	44
-Immediate Memory	40	40	40	40	40	44	44		44	49	40	40	40	40	40
-VSC	84	84	84	78	84	66	84		72	72	66	66	64	60	75
-Language	40	40	40	40	40	74	57		74	57	40	40	40	40	40
-Attention	43	46	46	43	46	46	40		46	43	40	40	40	40	40
-Delayed Memory	52	52	60	60	56	56	68		52	52	40	40	40	44	44
SAQOL-39 TS	3.95	4.27	3.62	4.03	4.02	2.54	2.95		3	2.9	3.49	2.62	3.36	3.1	2.95
-Physical	4.06	4.69	4	4.24	4.41	3.65	3.65		4.41	3.94	3.65	2.94	3.41	3	3.35
-Comm	3.57	3.14	3.14	3.57	3.43	1.14	1.14		1	1.71	3.57	2.14	3	3.29	2.43
-Psychosocial	4.09	4.6	3.91	4.27	4.36	1.91	1.91		2.45	1.91	3.55	2.36	3.55	3.18	3
-Energy	3.75	3.75	2	3.25	2.5	2	2		2	3.25	2.5	2.75	3.25	3	2
AAQoL (total)	45.7	39.9	52.8	52.8	35.2	62.7	79.3		65.4	73.7	73.3	60	39.2	54.9	47.4
-Comprehension	44.1	35.7	51.7	56.7	29.3	62.7	78.6		40.7	71.4	67.3	61.4	44.3	55.7	52.9
-Expression	47.2	44	54	48.8	41	62.6	80		90	76	79.2	58.6	34	54	42
PALPA 7	20	17	21	21	18	23	24		24	24	0	1	3	0	3
PALPA 8	8	9	12	12	10	20	18		22	26	1	0	2	0	2
PALPA 12	0	0	0	1	0	12	19		21	20	0	0	0	0	0
PALPA 53	0	0	0	0	0	0	0		0	0	0	0	0	0	0

^Pseudonym

\* Did not attend this outcome measurement sessions

## Secondary outcome measures – Usability

Participant	^John		^Isobel		^Thomas		^Damian		^Gerry		^Eleanor	
Group	1		1		1		2		2		2	
Mid-Phase	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2
Ease of use questionnaire – median#	3	3	1	1	2	1	1	1	1	3	4.5	4
Observation session– level of independence	Near independent	Independent	Near independent	Near independent	Near Independent	Independent	Some assistance	Near independent	Some assistance	Near independent	A lot of assistance	Some Assistance
Perceived workload /NASA TLX ##	45	50.83	8.33	8.33	49.17	47.50	33.3	33.3	91.67	81.67	89.17	72.50
Usage – Total attempted	78	112	135	41	67	95	25	27	17	66	22	54
Usage – Total completed	70	89	95	16	64	79	15	22	7	24	4	31
Recommend programme	Didn't know	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Couldn't make recommendation	Couldn't make recommendation
Preference for mode of intervention	No preference	ICT-delivered	ICT	No preference	ICT-delivered	ICT-delivered	Combination of face-to-face and ICT-delivered	Combination of face-to-face and ICT-delivered	Face-to-face	Combined face-to-face and ICT-delivered	Face-to-Face	Face-to-Face

#Ease of Use Ratings Range 0-5 (0 = No Problems/Very Easy, 3 = Neutral Ratings, 5 = Lots of Problems/Very Hard)

## Rating 1 – 100 (1 = Very Low Level of Cognitive Workload, 50 = Medium Level of Cognitive Workload, 100 = Very High Level of Cognitive Workload)

## **Adverse Events**

There were no adverse events associated with this trial.