Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
Akabogu et al., 2019 PEDro score: 6 Country: Nigeria	86 patients with stroke (recovery period not specified)	Cognitive behavior language therapy (CBLT, n=43) vs. No treatment (n=43) _Treatment details_: 2-hour sessions, 2 sessions/week for 10 weeks and 4 weeks of follow-up sessions 2 months after completion of treatment. _CBLT_: individual and group sessions where patients were encouraged to challenge their language-related negative beliefs, trained to identify and systematically modify any irrational thoughts related to speech making, language, and communication; included activities in which the therapies directly targeted specific listening, speaking, reading or writing skills; patients learned to identify and dispute their unhelpful thoughts and beliefs through psycho-education, cognitive restructuring, exposure techniques. It also involved directed training of caregivers focused on education about aphasia and its impacts.	At 10 weeks (post-treatment): (+) Porch Index of Communicative Ability (PICA) (+) Speech-Language Unhelpful Thoughts and Beliefs Scale (SLUBS) At 3 months (follow-up): (+) PICA (+) SLUBS
Altmann et al., 2014 PEDro: 4 ountry: USA	14 patients with chronic stroke	Intentional gestures + intensive anomia treatment (n=7) vs. No gestures + intensive anomia treatment (n=7) _Treatment details_: 1 hour/session, 2 sessions/day, 5 times/week for 3 weeks. _Intentional gestures_: participants initiated treatment trials with the left hand by opening and reaching into a box and	At 3 weeks (post-treatment): (-) Picture Naming probes % (-) Category-Generation probes % (-) Boston Naming Test (BNT) (-) Western Aphasia Battery – Aphasia Quotient (WAB-AQ) (-) Discourse Quantity – Utterances (-) Discourse Quantity – Words (-) Discourse Quantity – Verbs

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		pushing a red button; during each correction procedure participants were required to make nonmeaningful circular gestures with the left hand. *Intensive anomia treatment*: 3 phases of treatment that focused on naming pictures and verbally generating exemplars of different picture categories.	(-) Discourse Quantity – Nouns (-) Discourse Quality – grammatical (-) Discourse Quality – Correct information units (-) Discourse Quality – Propositions (-) Discourse Quality – Utterances with new information At 3 months (follow-up): (-) Picture Naming probes % (-) Category-Generation probes % (-) BNT (-) WAB-AQ (-) Discourse Quantity – Utterances (+) Discourse Quantity – Words (-) Discourse Quantity – Verbs (-) Discourse Quantity – Nouns (-) Discourse Quality – Grammatical (-) Discourse Quality – Correct information units (-) Discourse Quality – Propositions (-) Discourse Quality – Utterances with new information
Benjamin et al., 2014 PEDro: 4 Country: USA	14 patients with chronic stroke	Intention treatment + picture naming and category-member generation training (n=7) vs. Picture naming and category-member generation training (n=7)	At 6 weeks (post-treatment): (-) Picture Naming probes % (-) Category-Generation probes % At 3 months (follow-up): (-) Picture Naming probes % (-) Category-Generation probes %

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		Treatment details: 10-45-minutes/session, 5 times/week for 6 weeks. *Intention treatment*: participants used their left hand to lift a box lid and push a red button, which initiated trials by triggering the presentation of the treatment stimuli. *Picture naming and category-member generation training*: training picture naming and categories with gradual increase in difficulty.	
Bowen et al., 2012 PEDro: 7 Country: United Kingdom	170 patients with acute stroke at time of admission to study	Speech language therapy (SLT, n=85) vs. Social contact intervention (n=85) *Treatment details*: Up to 3 times/week for 16 weeks (variable duration and frequency). *SLT*: enhanced, agreed best practice, communication therapy specific to aphasia or dysarthria offered by speech and language therapists according to participants needs, with continuity from hospital to community. *Social contact intervention*: excluded communication therapy where participants benefited spending time with with an untrained conversation partner.	At 6 months post-stroke (follow-up): (-) Therapy Outcome Measure: Communication Activity Scale (-) Communication Outcome After Stroke Scale (COAST) (-) Carer COAST (-) Carers of Older People in Europe (COPE) Index – Negative impact (-) COPE Index – Positive impact (-) COPE Index – Quality of support (-) Serious adverse events
Breitenstein et al., 2017 PEDro: 8 Country: Germany	158 patients with chronic stroke	Intensive speech and language therapy (n=79) vs. Deferred intensive SLP (n = 79)	At 3 weeks (post-treatment): (+) Amsterdam-Nijmegen Everyday Language Test (ANELT) A-scale (-) ANELT B-scale (-) Modified Rankin Scale (mRS)

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		Treatment details: 10 hours or more/week (one-to-one and/or group rehabilitation with a speech language pathologist) + 5 hours or more/week (self-managed training) for 3 or more weeks. _Intensive speech and language therapy_: linguistic and communicative-pragmatic approaches individualized to the baseline profile of each patient. Participants in the deferred intensive SLP received the treatment following 3 weeks of no treatment.	(+) Sprachsystematisches APhasieScreening (SAPS) – Total (-) SAPS – Phonology (+) SAPS – Lexicon (+) SAPS – Syntax (+) SAPS – Language comprehension (+) SAPS – Language production (+) Stroke and Aphasia Quality of Life Scale-39 (SAQoL-39) – Total (-) SAQoL-39 – Physical (-) SAQoL-39 – Communication (-) SAQoL-39 – Psychosocial (-) SAQoL-39 – Energy (-) Nonverbal Learning Test (NVLT) (-) Trail Making Test – A (-) Trail Making Test – B At 6 months (follow-up): (-) Communicative Effectiveness Index (-) ANELT A-scale (-) ANELT B-scale (-) mRS (-) SAPS – Total (+) SAPS – Phonology (-) SAPS – Lexicon (-) SAPS – Syntax (-) SAPS – Language comprehension (-) SAPS – Language production (-) SAQoL-39 – Total (-) SAQoL-39 – Physical (-) SAQoL-39 – Communication

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) SAQoL-39 – Psychosocial (-) SAQoL-39 – Energy (-) NVLT (-) Trail Making Test – A (-) Trail Making Test – B
Ciccone et al., 2016 PEDro: 8 Country: Australia	20 patients with acute stroke	Constraint-induced aphasia therapy (CIAT, n=12) vs. Individual therapy (n=8) _Treatment details_: 45-60-minutes/session, 5 times/week for 4-5 weeks. _CIAT_: participants were constrained to interact through verbal production only during a request and response language activity in which they aimed to collect the highest number of paired picture cards; conducted in groups. _Individual therapy_: semantic feature therapy, cued naming therapy, lexical semantic, mapping therapy, phonological feature mapping.	At 4-5 weeks (post-treatment): (-) Western Aphasia Battery – Aphasia Quotient (WAB-AQ) (-) Discourse Analysis (DA) (-) Stroke and Aphasia Quality of Life Scale (SAQoL) At 12 weeks (follow-up): (-) WAB-AQ (-) DA (-) SAQoL At 26 weeks (follow-up): (-) WAB-AQ (-) DA (-) SAQoL
David et al., 1982 PEDro score: 5 Country: United Kingdom	155 patients with subacute/chronic stroke	Speech language therapy by speech pathologists (n=65) vs. Language stimulation and support by untrained volunteers (n=68) _Treatment details_: 30 hours over 15- 20 weeks.	At week 1/2/3/4 of treatment and at 15-20 weeks (post-treatment): (-) Functional Communication Profile Note: results referred to changes in scores from baseline to post-treatment.

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		Details on the format and consistency of interventions were not provided.	
de Jong-Hagelstein et al., 2011 PEDro score: 8 Country: The Netherlands	85 patients with acute/subacute stroke	Cognitive-linguistic treatment comprising semantic and/or phonological training (n=41) vs. Communicative treatment comprising compensatory strategies and use of residual language skills (n=44) _Treatment details:_ 2 – 5 hours/week for 6 months. _CLT_: speech language pathologists provided BOX, a semantic treatment programme, and/or FIKS, a phonological treatment programme (paper and computer versions), as suitable for the individual. _Communicative treatment_: aimed at improving communicative ability using all verbal and non-verbal strategies available to the patient (e.g. written choice communication, communication books, role playing and conversational coaching). Techniques included PACE, role play and conversational coaching.	At 3 months (mid-treatment): (-) Amsterdam-Nijmegen Everyday Language Test – Scale A Understandability (ANELT-A) – Final score (-) ANELT-A – Mean improvement (-) ANELT-A – Severity category (-) Semantic Association Test (SAT) (+) Semantic Word Fluency (SWF) (-) Psycholinguistic Assessment of Language Processing in Aphasia (PALPA) - Semantic association with low imageability words (-) PALPA – Nonword repetition (-) PALPA – Auditory lexical decision (-) Letter Fluency Task At 6 months (post-treatment): (-) ANELT-A – Final score (-) ANELTA-A – Mean improvement (-) ANELT-A – Severity category (-) SAT (-) SWF (-) PALPA: semantic association with low imageability words (-) PALPA: nonword repetition (-) PALPA: auditory lexical decision (+) Letter Fluency Task

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
Doesborgh et al., 2004a PEDro score: 8 Country: the Netherlands	58 patients with subacute stroke	Semantic treatment (n=29) vs. Phonological treatment (n=29) _Treatment details:_ 1.5 hours/session, 1-2 sessions/week for 40-60 hours of treatment over 10-12 months. _Semantic treatment_: BOX intervention focused on the interpretation of written words, sentences, and texts, containing a variety of semantic decision tasks aimed at enhancing semantic processing. Exercises are in multiple choice or right/wrong format and have several levels of difficulty. _Phonological treatment_: FIKS treatment that is focused on sound structure. As in BOX, written exercises on the word, sentence, and text level are presented, directed at the phonological input and output routes.	At 10-12 months (post-treatment): (-) Amsterdam Nijmegen Everyday Language Test (ANELT-A) – Final score (-) ANELT-A – Mean improvement (-) Semantic Association Test (-) Psycholinguistic Assessment of Language Processing in Aphasia (PALPA) – Synonym judgment subtest (-) PALPA – Nonword repetition subtest (+) PALPA – Auditory lexical decision subtest* * in favour of phonological vs. semantic treatment
Doesborgh et al., 2004b PEDro score: 6 Country: The Netherlands	19 patients with chronic stroke	Multicue computer program (n=9) vs. No treatment (n=10) _Treatment details_: 30-45-minutes/session, 2-3 sessions/week for 2 months for a total of 10-11 hours of treatment. _Multicue computer program_: participants were offered a variety of cues for improving word finding; the computer	At 2 months (post-treatment): (-) Amsterdam Nijmegen Everyday Language Test – Scale A (-) Boston Naming Test

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		program assisted participants to find which cues were the most helpful.	
Drummond, & Rentschler, 1981 PEDro: 5 Country: USA	8 patients with chronic stroke	Visual-gestural cueing (n=4) vs. No gestural cueing (n=4) *Treatment details*: 15-30-minutes/session, 1 session/day for 2 weeks. *Gestural cueing*: the "AMERIND Gestural Code" visual-gestural system was used, which incorporates manual gestures/signs to assist with word retrieval. Both groups received conventional auditory-verbal cueing consisting of initial-syllable and sentence-completion cues.	At 2 weeks (post-treatment): (-) Response time to 10 AMERIND nouns and 10 non-AMERIND nouns
Elman & Burnstein-Ellis, 1999 PEDro score: 8 Country: USA	28 patients with chronic stroke	Group communication treatment (n=14) vs. Deferred treatment (n=14) *Treatment details*: 2.5-hours/session, 2 sessions/week for 4 months (total of 32 sessions). *Group communication treatment*: increasing initiation of conversation and exchanging information using all conversation means possible (e.g. communicative notes, books, gestures, mimes, role play, etc.), delivered by a speech language pathologist in a group format.	At 4 months (post-treatment): (+) Western Aphasia Battery-Aphasia Quotient (WAB-AQ) (+) Communicative Abilities in Daily Living Test (CADL) (-) Shortened Porch Index of Communicative Ability (SPICA) At 5 months (follow-up): (-) WAB-AQ (-) CADL (-) SPICA

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		Participants in the deferred group received 3 or more hours/week of social group activities of their choice (e.g. movement lessons, creative performance arts group, church activities, support groups, etc.). Participants in the deferred treatment received the *Group Communication Treatment* at 4 months (i.e. after the treatment group completed their allocated intervention).	
Godecke et al., 2014 PEDro: N/A (quasi-experimental study design) Country: Australia	47 patients with acute stroke	Very early rehabilitation (n=20) vs. Usual care – cohort sample from Godecke et al., 2012 (n=27) *Treatment details*: 20 x 1-hour sessions, 5 times/week for 4 weeks. *Very early rehabilitation:* group (constraint-induced aphasia therapy) or individual therapy (Semantic Feature Therapy, Cued Naming therapy, Lexical-semantic (BOX) therapy, Mapping therapy and/or Phonological Feature Therapy). *Usual care*: 85% of participants received no therapy; 15% of participants received cognitive-neuropsychological and neurolinguistically-based therapy including BOX therapy, Mapping therapy and/or Semantic Feature Therapy. Participants received usual care on average for 11 minutes/week for 3 weeks.	At 4-5 weeks (post-treatment): (+) Western Aphasia Battery – Aphasia Quotient (WAB-AQ) % maximum potential recovery (+) Discourse Analysis At 26 weeks post-stroke (follow-up): (+) WAB-AQ % maximum potential recovery (-) Discourse Analysis
Hartman and Laundau, 1987	60 patients with subacute stroke	Task-oriented aphasia therapy (n=30) vs.	At 6 months (post-treatment): (-) Porch Index of Communicative Ability (PICA)

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
PEDro score: 6 Country: USA		Nondirective counseling and conversation (n=30) _Treatment details_: 2 sessions/week for 6 months (session duration unspecified). _Task-oriented aphasia therapy_: individualised language 'drills' using auditory stimulation at single-word and phrase level, following spoken commands, reading, sentence repetition/completion and cueing strategies. _Nondirective counseling and conversation_: speech language pathologists provided unstructured, conversational sessions with no conventional therapeutic informal instruction or specific suggestions for language practice.	At 10 months (follow-up): (-) PICA
Kagan et al., 2001 PEDro score: 6 Country: Canada	40 patients with chronic stroke	Supported Conversation for Adults with Aphasia (SCA) training workshop (n=20) vs. Social interactions with an untrained volunteer (n=20) _Treatment details:_ 1-day workshop session. _SCA_: didactic and experiential training that included a conceptual/motivational module (1.25 hours), technical module (2 hours), integrative role-play (1.5 hours) and an evaluation exercise (0.5) hours; and was performed in dyads (i.e. patient with stroke and a volunteer). _Untrained volunteers_: time-matched social interactions with volunteers who were not trained; volunteers had to	At post-treatment (1 workshop): _Patients:_ (+) Measure of Participation in Conversation for Adults with Aphasia (MPCA) – interaction (+) MPCA – transaction

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		be proficient in English (i.e. English as a mother-tongue or the language that is used primarily).	
Katz & Wertz, 1997 PEDro: 5 Country: USA	63 patients with chronic stroke	Computer reading (n=21) vs. Non-language computer stimulation (n=21) vs. No treatment (control, n=21) _Treatment details_: 3 hours/week for 6 months. _Computer reading_: computer-facilitated activities of different difficulty levels that targeted perceptual-visual matching and reading comprehension. _Computer stimulation_: non-verbal cognitive rehabilitation software and computerized arcade-style games that did not include language stimuli.	At 6 months (post-treatment): _Computer reading vs. Computer stimulation:_ (+) Porch Index of Communicative Ability (PICA) – Overall (-) PICA – Auditory (+) PICA – Verbal (-) PICA – Pantomime (-) PICA – Visual (-) PICA – Reading (-) PICA – Copying (-) PICA – Writing (+) Western Aphasia Battery (WAB) – Aphasia Quotient (-) WAB – Spontaneous speech (-) WAB – Comprehension (+) WAB – Repetition (-) WAB – Naming _Computer reading vs. No treatment:_ (+) PICA – Overall (-) PICA – Auditory (+) PICA – Verbal (+) PICA – Pantomime (-) PICA – Visual (-) PICA – Reading (-) PICA – Copying (-) PICA – Writing (+) WAB – Aphasia Quotient

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) WAB – Spontaneous speech (-) WAB – Comprehension (+) WAB – Repetition (-) WAB – Naming *Computer stimulation vs. No treatment:* (-) PICA – Overall (-) PICA – Auditory (-) PICA – Verbal (+) PICA – Pantomime (-) PICA – Visual (-) PICA – Reading (-) PICA – Copying (-) PICA – Writing (-) WAB – Aphasia Quotient (-) WAB – Spontaneous speech (-) WAB – Comprehension (+) WAB – Repetition (-) WAB – Naming Note: participants were also tested at ~mid-treatment (3 months) however results are not reported.
Katz & Wertz, 1992 PEDro: 5 Country: USA	43 patients with chronic stroke	Computer reading (n=13) vs. Non-language computer stimulation (n=15) vs. No treatment (n=15)	At 6 months (post-treatment): *Computer reading vs. Non-language computer stimulation:* (+) PICA – Overall (-) PICA – Reading (+) PICA – Writing (+) PICA – Verbal (-) WAB-AQ

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		Treatment details: 3 hours/week for 6 months. *Computer reading*: 29 activities of different difficulty levels to facilitate perceptual-visual matching and reading comprehension. *Computer stimulation*: non-language cognitive rehabilitation software and computerized arcade-style games that did not include language stimuli.	(-) C-CAT (non-standardized assessment comprised of 232 items from the computer reading program) *Computer reading vs. No treatment:* (+) PICA – Overall (-) PICA – Reading (-) PICA – Writing (+) PICA – Verbal (-) WAB-AQ (-) C-CAT *Non-language computer reading vs. No treatment:* (-) PICA – Overall (-) PICA – Reading (-) PICA – Writing (-) PICA – Verbal (-) WAB-AQ (-) C-CAT
Kesav et al., 2017 PEDro: 6 Country: India	24 patients with acute/subacute stroke	Computer-based language rehabilitation therapy + conventional speech language therapy (SLT) (n=12) vs. Conventional SLT alone (n=12) *Treatment details*: 1-hour/session, 3 sessions/week for 4 weeks. *Computer-based language rehabilitation therapy*: MOZHI software was used that comprised hexarchial language hierarchy modules to address auditory verbal	At 4 weeks (post-treatment): (+) Western Aphasia Battery – Aphasia Quotient (WAB-AQ) At 3 months (follow-up): (+) WAB-AQ Note: results were in favor of conventional SLT alone vs. computer-based language rehabilitation therapy + conventional SLT.

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		comprehension, expression of language assessment, naming, writing, reading, and calculation. *Conventional SLT* consisted of deblocking for improving comprehension, supported communication, promoting aphasics communicative effectiveness (PACE) therapy, melodic intonation therapy, multiple input phoneme therapy, prolongation techniques, word fluency exercises, picture description, narration tasks, alphabetical identification and naming, phone-grapheme correlation, unison reading, letter by letter reading. It was delivered in 12 x 1-hour sessions, 3 sessions/week for 4 weeks.	
Kurland et al., 2016 PEDro: 6 Country: USA	24 patients with chronic stroke	Interactive language action therapy – constrained (ILAT – constrained) (n=12) vs. Modified version of Promoting Aphasic Communicative Effectiveness – unconstrained (mPACE – unconstrained) (n=12) *Treatment details*: 3-hrs/session (morning or afternoon), over 10 consecutive workdays. *ILAT*: therapeutic language games using picture cards representing trained sets of actions such as requesting, accepting, and denying. Patients were guided by constraint to respond verbally. *mPACE*: same therapeutic games, but patients were guided towards multiple response modalities and were	At 2 weeks (post-treatment): (-) Boston Diagnostic Aphasia Examination 3rd Edition (BDAE-3) – Aphasia severity (-) BDAE-3 – Auditory comprehension (-) BDAE-3 – Sentence repetition (-) BDAE-3 - Cookie Theft Description task – changes in content unit (-) Boston Naming Test 2nd Edition (BNT-2) (-) Porch Index of Communicative Ability (-) Object and Action Naming Battery – trained pictures (-) Object and Action Naming Battery – untrained pictures

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		free to choose any one or more approaches (e.g. gestures, spoken words).	
Laska et al., 2011 PEDro score: 7 Country: Sweden	123 patients with acute stroke	Early speech language therapy (n=62) vs. No treatment (n=61) _Treatment details:_ 45-minutes/session, 5 days/week for 3 weeks. _Speech language therapy_: Language Enrichment Therapy. Note: Following the 21-day intervention period, all patients could receive speech language therapy at the discretion of the responsible physician.	At 21 days (post-treatment): (-) Amsterdam-Nijmegen Everyday Language Test (ANELT) (-) Norsk Grunntest for Afasi (NGA) aphasia coefficient At 6 months (follow-up): (-) ANELT (-) NGA aphasia coefficient
Lincoln et al., 1984 PEDro score: 6 Country : United Kingdom	327 patients with subacute stroke	Speech therapy (n=163) vs. No treatment (n=164) _Treatment details:_ 1 hour/session, 2 times/week for 24 weeks. _Speech therapy_: delivered by therapists who determined the appropriate intervention according to the needs of the patient. All participants received conventional rehabilitation (e.g. occupational therapy); the no treatment group was offered speech therapy at 24 weeks.	At 12 weeks (mid-treatment): (-) Porch Index of Communicative Ability (PICA) (-) Functional Communication Profile (-) Speech Questionnaire At 24 weeks (post-treatment): (-) PICA (-) Functional Communication Profile (-) Speech Questionnaire
Lincoln et al., 1982 PEDro score: 4	24 patients with subacute/chronic stroke	Speech language therapy (n=12) vs.	At 4 weeks (post-treatment T1 or post-treatment T2):

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
(two cross-over comparisons design study) Country: United Kingdom		Operant conditioning (n=6) Or Attention placebo (n=6) _Treatment details:_ 30 minutes/session, 12 sessions over 4 weeks. Participants then crossed over to receive the other intervention for a further 4 weeks, whereby each participant received two interventions: (i) speech language pathology, and (ii) operant conditioning or attention placebo. _Speech language therapy_: the speech language pathologist selected tasks to improve various aspects of communication ability. Early stages facilitated use of automatic and serial speech, and matching tasks (e.g. matching pictures with spoken and written words, phrases and sentences), and tasks to improve auditory memory and discrimination. Verbal expressive ability was facilitated in stages using imitation, sentence completion, word games, sequencing tasks, grammar exercises and stylised conversation. Reading and writing were also practiced in a progression from simple to more complex tasks. _Operant conditioning_: participants were provided with immediate contingent verbal praise, such as "yes", "good", "that's right, it's a chair" and, in addition, tokens were given for correct responses, to provide visual feedback. Whether words, words and phrases or sentences were to be reinforced was decided from a single baseline session.	_Speech language therapy vs. Operant conditioning_ (-) Porch Index of Communicative Ability (-) Token Test – short version (-) Object Naming Test (-) Fluency (naming – Food, Countries) (-) Picture Description (-) Raven's Progressive Matrices (-) Speech Questionnaire _Speech language therapy vs. Attention placebo_ (-) Porch Index of Communicative Ability (-) Token Test – short version (-) Object Naming Test (-) Fluency (naming) (-) Picture Description (+) Raven's Progressive Matrices (-) Speech Questionnaire* * favouring attention placebo vs. speech language pathology

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		Attention placebo: the therapist conversed with the patient about a series of predetermined topics in a conversational manner, with the participant using explanatory gestures as necessary. Therapists selected 1 topic/session and obtained 10 items of information/topic. The initiation of conversation was left, as far as possible, to the patient.	
Lyon et al., 1997 PEDro score: N/A (quasi-experimental design study) Country: USA	10 patients with chronic stroke	Communication partner training program *Treatment details:* Phase I: communication practice 1-1.5 hours/session, 2 sessions/week for 6 weeks; Phase II: activity participation for 1-4 hours, 2 times/week for 14 weeks. *Communication partner training program*: patient, caregiver and communication partner triads worked together to learn and practice how to interact freely and effectively. The communication partner (community volunteer) served to bridge clinical and real-life pursuits. Note: 3 triads were randomly assigned to a deferred treatment group, although between-group comparisons were not made.	At 20 weeks (post-treatment): (-) Boston Diagnostic Aphasia Examination – overall mean percentile (-) Communication Abilities in Daily Living (-) Affect Balance Scale (+) Communication Readiness and Use Index (non-standardized) - patient, carer, communication partner (+) Psychosocial Wellbeing Index (non-standardized) - patient, carer, communication partner Note: results reflect within-group differences from pre- to post-treatment.
Maher et al., 2006 PEDro score: 4 Country : USA	9 patients with chronic stroke	Constraint-induced language therapy (CILT) (n=4) vs. Modified version of Promoting Aphasic Communicative Effectiveness (mPACE) (n=5)	At 2 weeks (post-treatment): (-) Western Aphasia Battery – Aphasia Quotient (-) Boston Naming Test (raw score) (-) Action Naming Test (raw score) Note: measures were also collected at 1-month follow-up; however, no statistical analyses

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		Treatment details: 3 hours/session, 4 days/week for 2 weeks. *CILT*: participants' communication was restricted to spoken output; alternative communication modes (e.g. writing, gesturing, pointing) were not permitted. *mPACE*: participants were allowed to communicate in any and all modalities (e.g. gesturing, pointing, writing, etc.) during therapy sessions.	were performed due to a high dropout rate from the PACE group.
Mattioli et al., 2014 PEDro: 5 Country: Italy	12 patients with acute stroke	Aphasia treatment (n=6) vs. No treatment (n=6) *Treatment details*: 1 hour/session, 5 days/week for 2 weeks. *Aphasia treatment*: verbal comprehension and lexical retrieval in form of naming task, facilitators, and stimulation of deficits.	At 2 weeks post-stroke (post-treatment): (-) Aachen Aphasia Test (AAT) – Repetition (+) AAT – Naming (+) AAT – Written language (-) AAT – Oral comprehension (-) AAT – Written comprehension (-) AAT – Token Test (50-item) (-) AAT – Spontaneous language At 6 months post-stroke (follow-up): (-) AAT – Repetition (+) AAT – Naming (+) AAT – Written language (-) AAT – Oral comprehension (-) AAT – Written comprehension (-) AAT – Token Test (50-item) (-) AAT – Spontaneous language
Nenert et al., 2017 PEDro: 5 Country: USA	19 patients with chronic stroke	Constraint-induced aphasia therapy (CIAT, n=11) vs. No treatment (n=8)	At 10 days (post-treatment): (-) Functional magnetic resonance imaging

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		Treatment details: 4 hours/session for 10 consecutive days. *CIAT*: tailored intervention to promote spoken language and to limit compensatory non-spoken language strategies, where in a therapeutic game context, participants request picture cards from each other by using descriptions of the depicted objects.	(fMRI) – Semantic Decision (-) fMRI – Tone Decision (-) fMRI – Covert Verb Generation (-) Peabody Picture Vocabulary Test (-) Boston Naming Test (-) Controlled Oral Word Association Test (raw score) (-) Semantic Fluency Test (-) Mini-Communicative Activities Log (-) Noun recall At 3 months (follow-up): (-) fMRI – Semantic Decision (-) fMRI – Tone Decision (-) fMRI – Covert Verb Generation
Nobis-Bosch et al., 2011 PEDro: 6 (cross-over design) Country: Germany	18 patients with chronic stroke	Intensive language training by an electronic learning device B.A.Bar (n=9) vs. Nonlinguistic cognitive training (n=9) *Treatment details:* 1 hour/session, 2 times/day, 4 days/week for 4 weeks; participants were also supervised by their SLP for 1 hour/week. Participants then crossed over to receive the alternative intervention for a following 4 weeks. *Intensive language training by a B.A.Bar electronic learning device:* stimulation of a conversation-like setting and daily living situations to practice verbal skills, using an	At 4 weeks: (-) Dialogue test (DT) linguistic scoring – trained items (-) DT linguistic scoring – untrained items (-) DT communicative scoring – trained items (-) DT communicative scoring -untrained items (-) Word Fluency Test – Food (-) Word Fluency Test – Animals (-) German adaptation of Thurstone's Primary Mental Ability Test – Pattern recognition from subtest 10 (-) Test for Attentional Performance – Visual scanning from subtest 9 (-) Wechsler Memory Scale – Auditory digit span

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		electronic device. Training involved adjacency pairs, a unit of natural conversation that contains an exchange of information between two speakers who take turns in conversation. The turns are functionally related to each other in such a fashion that the first turn requires from the second turn a certain type of response. *Nonlinguistic cognitive training*: on basic functions of visual exploration and attention. It involved visual–cognitive exercises such as visual matching of a part to the whole, maze games, comparing two pictures to find differences, or searching for target objects in complex pictures.	(-) Corsi Block Tapping Test – Visual memory (-) Spontaneous speech – semi-standardized interview (-) Amsterdam Nijmegen Everyday Language Test At 8 weeks: (-) DT linguistic scoring – trained items (-) DT linguistic scoring – untrained items (-) DT communicative scoring – trained items (-) DT communicative scoring -untrained items (-) Word Fluency Test – Food (-) Word Fluency Test – Animals (-) German adaptation of Thurstone's Primary Mental Ability Test – Pattern recognition from subtest 10 (-) Test for Attentional Performance – Visual scanning from subtest 9 (-) Wechsler Memory Scale – Auditory digit span (-) Corsi Block Tapping Test – Visual memory (-) Spontaneous speech – semi-standardized interview (-) Amsterdam Nijmegen Everyday Language Test At 3 months (follow-up): (-) DT linguistic scoring – trained items (-) DT linguistic scoring – untrained items (+) DT communicative scoring – trained items* (+) DT communicative scoring – untrained items*

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) Word Fluency Test – Food (-) Word Fluency Test – Animals (-) German adaptation of Thurstone's Primary Mental Ability Test – Pattern recognition from subtest 10 (-) Test for Attentional Performance – Visual scanning from subtest 9 (-) Wechsler Memory Scale – Auditory digit span (-) Corsi Block Tapping Test – Visual memory (-) Spontaneous speech – semi-standardized interview (-) Amsterdam Nijmegen Everyday Language Test * In favor of Group B.
Palmer et al., 2012 PEDro: 7 Country: United Kingdom	34 patients with chronic stroke	Computer treatment (n=17) vs. No treatment (n=17) *Treatment details*: 20-minutes/session, 3 times/week for 5 months (approximately 1500 minutes of practice time in total). *Computer treatment*: participants used the StepbyStep computer program, which contains a library of more than 13,000 language exercises; participants followed steps progressing from listening to target words, producing words with visual, semnatic, phonemic, or written letter/word cues through to saying the words in	At 5 months (post-treatment): (+) Object and Action Naming Battery At 8 months (follow-up): (-) Object and Action Naming Battery

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		sentences. This program was developed a speech language pathologist and supported by a volunteer. All patients received *usual care* that included participation in activities to provide general language stimulation, attendance at communication support groups, and conversation, reading, and writing activities that are part of everyday life.	
Sickert et al., 2014 PEDro: 6 Country: Germany	100 patients with subacute stroke	Modified Constraint Induced Aphasia Therapy (mCIAT, n=50) vs. Conventional aphasia therapy (n=50) <u>Treatment details</u>: 2 hours/session for 3 weeks, total 15 hours. *mCIAT*: therapeutic language games performed in groups where shaping and constraint of non-verbal strategies were used (encouraging patients to use only verbal communication to describe cards with objects, drawings, photographs of everyday situations and a module of written language). *Conventional aphasia therapy:* training specific deficits including exercises of sentence completion, improving patients' retrieval of words, learning sentences patterns, conversation on current topics, listening to words, and repeating and following instructions, where participants were permitted to use any communication mode, including non-verbal communication.	At 3 weeks (post-treatment): (-) Aachener Aphasia Test (AAT) – Spontaneous speech (-) AAT – Token test (-) AAT – Repetition (-) AAT – Written language (-) AAT – Naming (-) AAT – Comprehension (-) Communicative Activity Log (CAL) – Amount of communication (patient) (-) CAL – Quality of communication (patient) (-) CAL – Amount of communication (relative) (-) CAL – Quality of communication (relative) At 8 weeks and 1 year (follow-up): (-) AAT – Spontaneous speech (-) AAT – Token test (-) AAT – Repetition (-) AAT – Written language (-) AAT – Naming (-) AAT – Comprehension (-) CAL – Amount of communication (patient) (-) CAL – Quality of communication (patient)

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) CAL – Amount of communication (relative) (-) CAL – Quality of communication (relative)
Stahl et al., 2016 PEDro: 7 (crossover design) Country: Germany	18 patients with chronic stroke	Intensive language-action therapy (ILAT, n=9) vs. Naming therapy (n=9) _Treatment details:_ 3.5-hours/session, 1 session/day for 6 consecutive days. Participants then received 6 days of no therapy, before crossing over to the other intervention group for a further 6 days. _ILAT_: participants played a card game in groups of 3 with 1 therapist who facilitated communicative-pragmatic action-imbedded therapy focusing on verbal requests. _Naming therapy_: participants played the same card game as the ILAT group; participants were required to describe or name objects shown on picture cards, with no verbal utterances for communication and social interaction.	At 6 days (post 1st treatment): (+) Aachen Aphasia Test (AAT) – mean score (+) AAT – production score At 18 days (post 2nd treatment): (+) AAT – mean score (+) AAT – production score Note: Results were in favour of ILAT vs. Naming therapy at both time points.
Szaflarski et al., 2015 PEDro: 8 Country: USA	24 patients with chronic stroke	Constraint-induced aphasia therapy (CIAT, n=14) vs. No treatment (n=10) _Treatment details_: 45-minutes/session, 4 sessions/day for 10 consecutive days (10-15-minute break between sessions)	At 3 weeks (1-week post end of treatment): (-) Boston Naming Test (BNT) (-) Controlled Oral Word Association Test (-) Semantic Fluency Test (-) Boston Diagnostic Aphasia Examination (BDAE) – Complex ideation (-) Peabody Picture Vocabulary Test III (-) Mini-Communicative Activities Log (mini-CAL)

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		CIAT: participants engaged in group therapeutic language card games using verbal communication to describe line drawings of nouns and photos of action verbs.	At 3 months (follow-up): (-) BNT (-) Controlled Oral Word Association Test (-) Semantic Fluency Test (-) BDAE – Complex ideation (-) Peabody Picture Vocabulary Test III (+) mini-CAL
Thompson et al., 2010 PEDro: 4 Country: USA	20 patients with chronic stroke	Computer-automated Treatment of Underlying Forms (Computer TUF) (n=6) vs. Clinician-administered TUF (n=8) vs. No treatment (n=6) *Treatment details*: 1 hour/session, 4 sessions/week for 5 weeks (maximum 20 sessions) or until 80% correct performance on the daily production prove was noted for 4 consecutive days. *TUF*: a linguistically-based treatment for improving agrammatic sentence deficits. *Computer-automated TUF*: Sentactics® interactive computer system was used to deliver TUF by a virtual clinician. *Clinician-trained TUF*: administered by clinicians and did not involve the use of a computer.	At ~ 5 weeks (post-treatment): *Computer TUF vs. Clinician TUF* (-) Comprehension Probe (CP) – Object relatives (-) CP – Object clefts (-) CP – Object wh-questions (-) Production Probe (PP) – Object relatives (-) PP – Object clefts (-) PP – Object wh-questions (-) Northwestern Assessment of Verbs and Sentences (NAVS) – Sentence Production Priming Test (SPPT) – Object relatives (-) NAVS-SPPT – Object wh-questions (-) NAVS-SPPT – Subject relatives (-) NAVS-SPPT – Subject wh-questions (-) NAVS – Sentence Comprehension Test (SCT) – Object relatives (-) NAVS-SCT – Object wh-questions (-) NAVS-SC – Subject relatives (-) NAVS-SCT – Subject wh-questions *Computer TUF vs. No treatment* (+) CP – Object relatives (-) CP – Object clefts

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
			(-) CP – Object wh-questions (+) PP – Object relatives (+) PP – Object clefts (-) PP – Object wh-questions (+) NAVS-SPPT – Object relatives (-) NAVS-SPP – Object wh-questions (-) NAVS-SPPT – Subject relatives (-) NAVS-SPPT – Subject wh-questions (+) NAVS-SCT – Object relatives (-) NAVS-SCT – Object wh-questions (-) NAVS-SCT – Subject relatives (-) NAVS-SCT – Subject wh-questions (-) Cinderella Naratives (CN) – Mean length of utterance (-) CN – Words per minute (-) CN – Complex to simple sentence ratio (-) CN – Noun to verb ratio (-) CN – Open to closed class ratio (-) CN – % grammatical sentences (-) CN – % verbs with correct arguments
Whitworth et al., 2014 PEDro: 6 Country: Australia	14 patients with subacute/chronic stroke	Novel Approach to Real-life Communication: Narrative Intervention in Aphasia (NARNIA, n=8) vs. Conventional speech language therapy (n=6) *Treatment details*: 4 sessions/week for 5 weeks (session duration is unspecified).	At 5 weeks (post-treatment): (-) Pyramid and Palmtrees Test (-) Kissing and Dancing Test (-) Object and Action Naming Battery – Verb Retrieval (-) Object and Action Naming Battery – Noun Retrieval (-) Northwester Assessment of Verbs and Sentences (NAVS) – Verb Comprehension

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		NARNIA: word retrieval, sentence production, and discourse macrostructure across a range of everyday discourse genres. *Speech* language therapy: interventions routinely used in clinical practice, and individually tailored to meet the assessed needs of the participant.	(-) NAVS – Verb Naming (-) NAVS – Sentence Comprehension Test (-) NAVS – Argument Structure Production Test (-) Sentence Generation Test (-) Everyday discourse – Overall output – Number of utterances (-) Everyday discourse - Single Word Level – Heavy verbs (-) Everyday discourse – Single Word Level – Light verbs (-) Everyday discourse – Single Word Level – Mental verbs (-) Everyday discourse – Sentence Level – Two arguments (-) Everyday discourse – Sentence Level – Three arguments (-) Everyday discourse – Sentence Level – Thematic embedding (+) Everyday discourse – Discourse – Orientation (-) Everyday discourse – Discourse – Body (-) Everyday discourse – Discourse – Conclusion
Woldag et al., 2017 PEDro: 7 Country: Germany	62 patients with acute stroke	Constraint-induced aphasia therapy (CIAT, n=21) vs. Conventional communication group language therapy (n=21) vs.	At 2 weeks (post-treatment): *CIAT vs. High-intensity conventional communication group:* (-) Aachen Aphasia Test (AAT) – Token test (-) AAT – Repetition (-) AAT – Written language (-) AAT – Naming

Author, Year PEDro Score, Country	Sample size	Intervention	Outcome and significance: (+) significant (-) not significant
		Low-intensity individual/group speech language therapy (n=20) _Treatment details_: 3 hours/session, 1 time/day over 10 working days (30 hours). _CIAT_: group-based therapeutic language games using spoken communication only; groups comprised 2-3 patients and 2 therapists. _Conventional communication group language therapy_: group interactions to facilitate all types of communication; groups comprised 3-4 patients and 1 therapist. _Low-intensity speech language therapy_: individual (30 minutes/session, 2 times/day for 10 days) + group (4x 1-hour sessions) therapy sessions to address all communication modalities; provided for a total of 14 hours of treatment.	(-) AAT – Comprehension (-) AAT – Profile level (+) Communicative Activity Log (CAL) – Qualitative (-) CAL – Quantitative _CIAT vs. Low-intensity individual/group speech language therapy:_ (-) AAT – Token test (-) AAT – Repetition (-) AAT – Written language (-) AAT – Naming (-) AAT – Comprehension (-) AAT – Profile level (-) CAL – Qualitative (-) CAL – Quantitative _Conventional communication group language therapy vs. Low-intensity individual/group speech language therapy:_ (-) AAT – Token test (-) AAT – Repetition (-) AAT – Written language (-) AAT – Naming (-) AAT – Comprehension (-) AAT – Profile level (-) CAL – Qualitative (-) CAL – Quantitative