بسمه تعالی

کارگروه ارتقاء و توانبخشی شناختی

بانک اطلاعات برنامه‌ها و بازی‌های ارتقاء و توانبخشی شناختی کامپیوتری

مقدمه

از سالیان قبل عصب روانشناسان تلاش کردند به افراد دچار آسیب مغزی در یادگیری مجدد صحبت کردن، راه رفتن، تصمیم گیری و ... کمک کنند. از میان ابزارهای مختلف، تمرینات شناختی کامپیوتری برای بازتوانی مجدد توانایی‌های از دست رفته مورد استفاده قرار گرفته است. با این حال این ابزارها در دسترس عموم نبودند اما با توسعه شرکت‌های تجاری در این حوزه دسترسی به این ابزارها برای افراد عادی نیز میسر شد.

هدف این برنامه‌ها تحریک کل مغز است. این برنامه‌ها شامل انواع متفاوتی از تمرینات که به تقویت توانایی‌های شناختی مانند حافظه، توجه، مهارت‌های زبان، مهارت‌های دیداری و استدلال است. در واقع این تمرینات شکل تکامل یافته بازی‌های سنتی و مداد کاغذی مانند پازل جدول کلمات متقاطع، جستجوی واژگان و سودوکو است. به چند دلیل تمرینات کامپیوتری نسبت به تمرینات سنتی موثرتر هستند: ۱) تمرینات کامپیوتری به شیوه های جدید ارائه می‌شوند. ۲) تنوع زیادی دارند. ۳) معمولا چالش برانگیزترند. ۴) آنها را می‌توان بر حسب سطح توانایی‌های کاربران تنظیم کرد. در ادامه مجموعه‌ای از برنامه‌های ارتقاء و توانبخشی شناختی با هدف آشنایی بازی سازان و پژوهشگران معرفی می‌گردد.

برنامه‌های ارتقاء و توانبخشی توانایی‌های شناختی کامپیوتری

Product	Product type	Target Age	Cognitive functions	Case study/preliminary study*	Randomized Clinical trial *	Systematic review/ Meta-analysis*	Website
Brain Age Concentration Training	Handheld device	All age	concentration, working memory				https://www.nintendo.com/games/detail/brain-age-concentration-training-3ds/
BrainWare Safari	online	All age	Attention, Memory, Visual Processing, Auditory Processing, Sensory Integration, Core Executive Functions, Higher Order Executive Functions	✓			https://mybrainware.com/
FitBrains	online	All age	Recall, logic, concentration, language, visual	✓	✓		http://www.fitbrains.com/ free
Happy-Neuron	online platform	All ages	Recall, attention, language, reasoning, visual-spatial	✓			https://www.happyneuronpro.com/en/
lumosity	online	All age	Memory, problem solving,	✓	✓		https://www.lumosity.com/en/

			flexibility, attention, speed				free
Cogmed	Software program	All age	Attention, working memory	✓	✓	✓	https://www.cogmed.com/
Earobics	Software program	children	Auditory and phonological awareness skills (early literacy skills)		✓		https://ies.ed.gov/ncee/wwc/EvidenceSnapshot/158
Fast forward	Software program	Children	Attention Auditory processing, Reading, spelling and writing, Working memory, Self confidence	✓	✓	✓	https://www.learnfasthq.com/home-fast-forword
Intelligym	Software program	For Athletes	peripheral vision, decision making, situation awareness, attention perception, pattern recognition				https://www.intelligym.com/
Vision restoration therapy	Software program	For rehabilitation clinics	Vision-related	✓	✓		https://novavision.com/vision-restoration-therapy-vrt/
Activate	online platform	Children	Attention, executive functioning,		✓		https://denmarkstudy2.c8sciences.com/?language=da

			processing speed, memory				
Attention Gym	Software program	13 and up	attention to detail, concentration, and listening skills				https://www.braintrain.com/attention-gym-adult-edition/
Brain Bashers	online platform	All ages	Logic, language, problem solving, math, visuospatial, memory				https://www.brainbashers.com/
Brain Experiment			Memory, reaction time, visuospatial, focus, processing, auditory skills, math				http://www.brainexperiment.org/
Brain Finess Pro	online platform	children 6-11	Working memory, attention, Memory, focus, flexibility, IQ, Will Power, Creativity, Impulse control				http://www.mindsparke.com/
Brain Metrix	Software program		Memory, reflex test, IQ test, sudoku, concentration, creativity, math,				http://www.brainmetrix.com/

			visuospatial, attention				
BrainBuilder	Software program		Memory, attention, visual and auditory processing, problem solving				http://www.braintraining101.com/
Braingle	online platform		Logic, trivia, sudoku, problem solving, planning, language, creativity				https://www.braingle.com/
BrainGymmer	online platform		Memory, concentration, processing speed, logic and planning, visual perception				https://www.braingymmer.com/en/
Brainist	Software program		Memory, puzzles, visuospatial, riddles, trivia, strategy, reasoning, language, attention, IQ test				http://www.brainist.com/
Brainology	online platform	for students	Executive skills, attention, processing	✓			https://www.mindsetworks.com/
BrainWave Safari	Software program	All ages	Attention, memory, processing,	✓			https://mybrainware.com/

			thinking, sensory integration				
Captain's Log	Software program	All ages	Attention, problem solving, working memory, logic, numeric concepts, memory, visual motor skills	✓	✓		https://captains-log-personal-trainer.windows10compatible.com/download
Cognifit	Software program	All ages	Auditory short-term memory, contextual memory, divided attention, eye-hand coordination, focus, inhibition, long-term memory, planning, processing speed, short-term recall, shifting	✓	✓		https://www.cognifit.com/
Cognitivefun	online platform		Attention, perceptual, executive skills, item span, memory, experiment				http://www.cognitivefun.net/
Dakim BrainFitness	Software program	Adults	Short and long term memory,languag	✓			https://www.dakim.com/

			e, computation, critical thinking, visuospatial				
Fast ForWord	Software program	Children	Language, memory, phonemic awareness, processing, sequencing	✓	✓	✓	https://www.scilearn.com/
Fun Brain	online platform	Children	Math, reading, problem solving, puzzles, matching				https://www.funbrain.com/
Games for the Brain	online platform	All ages	Language, problem solving, visuospatial, trivia, attention, recall				https://www.gamesforthebrain.com/ Free
Games@AARP	online platform		Language, recall, attention, problem solving, logic, memory, puzzles				https://games.aarp.org/ Many tasks are free
Journey to Wild Divine: The Passage	Software program	All ages	Attention, focus, stress management				https://wilddivine.com/
Memory Sentinel	Software program		For persons with moderate attention and memory problems				https://download.cnet.com/Memory-Sentinel-Pro/3000-2086_4-10277878.html

Memory Virtuoso	Software program	ages 13 and up	for memory to help avoid decline				
My Brain Solutions		All ages	Attention, memory, focus, resilience, reduced stress				https://www.totalbrain.com/
My Brain Trainer	online platform	All ages	Reaction time, executive skills, short-term recall, visual-spatial, information processing, working recall (n-back), scanning				http://www.mybraintrainer.com/
My Calm Beat			Focus, attention, reduces stress, improved productivity				https://www.hugedomains.com/domain_profile.cfm?d=mycalmbeat&e=com
Psychological Software Services	Flash drive Online platform	All ages	A large number of cognitive functions	✓	✓		http://www.psychological-software.com/index.html
Parrot	Online platform Software program	Adult	Memory, problem solving, attention, reading, naming, attention	✓			https://www.parrotsoftware.com/
Play Attention – Sheer Genius	Webinar	All ages	Processing, memory, time management,				http://www.playattention.com/

			visual tracking, attention				
Smart Driver Plus	Software program	ages 6 and up	Information processing, visual tracking, attention, concentration, recall, hand-eye coordination				https://www.porschebank.at/versicherung/smart-driver
Vigorous Mind	Online platform	Adult	Orientation, scheduling, brain gym, social networking, group activities				https://www.vigorousmind.com/
The Listening Program	Online platform	All ages	Auditory processing, attention, behavior, leraning, communication reading	✓			https://advancedbrain.com/
Nintendo switch							https://www.nintendo.com/switch/
BrainHQ	Online platform	All ages	attention, brain speed, memory, people skills, navigation, intelligence	✓	✓		https://www.brainhq.com/?v4=true&fr=y
CogniPlus	Software program	All ages	attention, planning, response inhibition,	✓	✓		https://lafayetteevaluation.com/products/cogniplus-main-software free

			memory, neglect / visual field, spatial processing, visuomotorics				
AIXTENT training	Software program	All ages	Attention (phasic alertness, vigilance, selective attention, or divided attention)	✓			
TAPAT (tonic and phasic alertness)	Software program		attention, working memory, executive function	✓	✓		
Cogpack	Software program		visuomotor skills, vigilance, comprehension,l anguage, memory, logie, everyday skills	✓	✓		https://www.psyberguide.org/apps/cogpack/
Elevate	Software program	All ages	attention, speaking skills, processing speed, memory, math skills, and more				https://www.elevateapp.com/ free
Neuroracer	Software program	All ages	Memory, sustained attention, working memory	✓			https://play.google.com/store/apps/details?id=com.magicoft.NeuroRacer&hl=en

Big Brain academy			identify, memorize, analyze, compute, visualize	✓			http://www.bigbrainacademy.com/
Peak			Memory, Attention, Problem solving				https://www.peak.net/ free
Sudoku	Online platform	All ages	Working memory, planning, updating, shifting, focused attention, visual scanning, spatial perception,	✓			https://www.cognifit.com/brain-games/sudoku
RehaCom	Software program	All ages	Attention, Memory, Executive Function, Visual Field, Visuo Motor	✓	✓		https://www.rehacom.co.uk/
Crosswords	Online platform	All ages	Forward and Reverse Memory Span, visual short term, working memory, fluid reasoning, response inhibition, speed of processing,	✓	✓		https://www.boatloadpuzzles.com/playcrossword free

			Arithmetic Reasoning, problem solving				
Queendom	Online platform	Children, adolescent	Communication skills				https://www.queendom.com/tests/testscontrol.htm?t=3 free
King of Math	Software platform		problem-solving				https://play.google.com/store/apps/details?id=com.oddrobo.kom&hl=en free
Brainwell Mind Brain Training	Software platform		problem-solving, attention, memory, language, visual skills				https://www.brainwell.com/ free
Mensa Brain Training	Software platform		Memory, Concentration, Agility, Perception and Reasoning				http://www.mensabraintraining.com/
Memorado Brain Training	Software platform		memory, logic, concentration, reaction and maths skills				https://memorado.com/ free
Brainturk	Online platform	All ages	intellectual, motor skills, emotional, episodic memory, communication skills				https://www.brainturk.com/ some tasks are free
Brain Workshop - a	Software platform	All ages	Working memory				http://brainworkshop.sourceforge.net/download.html

Dual N-Back game							free

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