

LOCUTOURTM
MULTIMEDIA
COGNITIVE REHABILITATION

**Attention and Memory
Volume I**

Version 1.3

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Marna Scarry-Larkin, MA, CCC/SLP

Modules

ORIENTATION

This module is intended for clients in Rancho Levels III, V, VI and focuses on arousal, orientation, sustained attention, and discrimination. Also appropriate for young or severely impaired individuals needing to improve forced choice decision making.

AUDITORY ATTENTION

This module is intended for clients in Rancho Levels VI, VII, VIII and focuses on sustained attention, auditory discrimination, accessing remote memory, cross-modal matching, vigilance, receiving, analyzing and storing auditory information. Also appropriate for children and adults with central auditory processing dysfunction, auditory conceptualization dysfunction, reading and spelling disorders, and language-learning disabilities.

LANGUAGE ATTENTION

This module is intended for clients in Rancho Levels III, V, VI, VII, VIII, and requires attention discrimination, processing and conceptualization of speech sounds, words, phrases and sentences. Also appropriate for children and adults with central auditory processing dysfunction, auditory conceptualization dysfunction, reading and spelling disorders and language-learning disabilities.

VISUAL PERCEPTUAL ATTENTION

This module is appropriate for clients in Rancho Level VI, VII, and VIII, and focuses on visual attention, discrimination, conceptualization, integration, analysis and visuomotor coordination to analyze visual features of patterns, shapes and word relationships. Also appropriate for children and adults with reading and spelling disorders and language-learning disabilities. Requires visual attention, perception, analysis and synthesis of visual stimuli.

HIGH LEVEL ATTENTION

This module is intended for clients in Rancho Levels VI, VII, VIII, and requires vigilance, sustained attention, planning, visual attention, visual search and discrimination, problem solving, planning verification of activity, analysis, spatial orientation, mapping and manipulation, sustained attention, discrimination, implementation and suppression of motor plans. These cognitive tasks were grouped to provide a high level attention training program for frontal lobe injury. The combination of games in this module is strongly recommended for clients with Post Concussion Syndrome, Mild Traumatic Brain Injury, and Attention Deficit Disorder.

AUDITORY AND VISUAL MEMORY

This module is intended for clients in Rancho Levels VI, VII, VIII, and focuses on auditory and visual memory. The client is required to attend to a brief auditory or visual stimulus, label the stimulus at a conceptual level, analyze the stimulus, hold the stimulus in working memory and then make a motor response. Visual, auditory linguistic and non-linguistic stimuli are presented. Also highly recommended and appropriate for children and adults with reading, spelling, language-learning disabilities and auditory and visual memory disorders.

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Chapter 1

*Questions
and
Answers*

About Our Guarantee

I really hope you enjoy using this multimedia tool in your practice as much as I have. It is a real pleasure to be able to watch children and adults make those important successive steps to independence.

Thank you for choosing LocuTour's Attention and Memory Volume I. We hope you will be 100% satisfied with all of our products. We are proud to be providing Multimedia Cognitive Rehabilitation and will strive to produce the best quality product at competitive prices. All of our products have a thirty-day 100% money-back guarantee. Call us. Let us know what we can do for you!

“Why Are Your Clients Playing These Games?”

The following question and answer portion of the manual will help you answer specific questions about the therapeutic goal of the games included on Attention and Memory Volume I.

I hear from my adult clients, “I’m an adult and I don’t like childish computer games.” Are these games for adults? We are very sensitive to this issue. We know that both children and adults will be using this program. In many of the games there are “mature” options, such as, using an oval or a fish in the *Catch of the Day*. The games have been designed to interest, not offend children and adults. The goal is to make the process of cognitive rehabilitation fun, and more importantly, effective. If the games aren't fun, the client will need to pull all her reserves together to complete the game. During rehabilitation, this is not always an effective expenditure of energy. The clinician can then direct the client's focus and energy toward improving cognition.

ORIENTATION MODULE

What is the focus of the Orientation Module? The focus of this module is to alert and orient the client to the therapeutic milieu. The clinician can observe the client and determine if the client seems to be visually attentive to the stimulus. The therapeutic goals for the client are: to become alert, be ready to participate in the therapy session, be oriented to the therapist, and to incorporate the computer as a therapeutic tool.

Must I begin each client at the Orientation Module? No. This interactive CD has been designed to cover a wide spectrum of head injury rehabilitation. Many clients are oriented and can move into the *Language Module*, or the *Attention Module*. Some Mild Post Concussion Syndrome clients will begin at the *High Level Attention Module* and may never need the initial modules.

In the game Sights and Sound Around Me, what is the purpose of the videos and photos? The photographs and videos are provided to allow the clinician a neighborhood full of places to go, and things to see. The videos encourage discussions about actions and familiar events. The photographs are clear and detailed and promote naming and word finding skill.

What clinical purpose is served by watching a meteor fly around on a screen? This is an orientation game, and the purpose is to get the client accustomed to the therapy rituals which includes use of the computer and visual scanning. Different levels are available with differing amounts of visual and auditory distraction.

When should my client play Hello? Hello is a good game for a client needing stimulus/response training. The phone rings and the client answers the phone by clicking on the receiver. We use different images of the caller. In *Photographs* no lip movements or facial cues are available and in *Line Drawings* the identification becomes more abstract. At this level, the client needs to generalize, "It was an older man's voice" or, "It was a young child's voice." This generalization to discriminating wide characteristic features of a voice will assist the person in attending to speakers in a group. If the client can rule out that the child was not talking and it was a woman that was speaking, the client can narrow down possible speakers. This activity is very appropriate for children and adults receiving aural habilitation or aural rehabilitation. Sometimes after a head injury, it may be necessary to re-train a client to locate and identify speakers.

When will I need to have a client use Left Ear? Right Ear?

This game is important when training your client to listen to a stimulus and then make a response. To be sure your client understands the request, and knows how to respond, this training activity begins with two training buttons. The first is, *Right Ear Only*, and sounds are only presented in the right ear. This is a very basic stimulus/response task. The client hears the stimulus, then makes a response that he heard the stimulus. When the *Left Ear Only* button is used, the same stimulus/response task is employed. *Left Ear ? Right Ear?* is the discrimination game. The client must listen to the sound, decide in which ear the sound was presented, then make a response. This last option requires decision making with a forced choice option, i.e. the sound was heard in the either left or the right ear.

Why do I need to be concerned if the headphones put out a sound louder than 85 dB? I've listened to my portable cassette player's music louder than this. You may have listened to headphone music louder than 85dB but it isn't good for your ears. The hearing mechanisms are delicate and can be damaged by loud music. Listening to loud music or sounds is never a recommended practice.

The computer will not allow you to play this game through ear phones louder than 85dB. If you have earphones with amplification capabilities, then you must check the level on the earphones before each session. Be certain the level is not above 85dB.

Is it important that my client be able to tell whether a sound is fast or slow? Yes, in *Tempo Please*, your client can train to respond to only slow sounds, then train to only fast sounds. It is the comparison between sounds that activates the brain's compare and contrast reasoning skills. When a client can compare and contrast these very simple sounds you are preparing him for the more advanced levels of attention.

When do I use Loud or Quiet? *Loud or Quiet ?* has the same compare and contrast skill as *Hello, Tempo Please*, and later, *High, Low, Here We Go*. The client is first trained to determine, loud or quiet, then discriminate between the stimuli.

AUDITORY ATTENTION

What is the difference between, The Little Duck Says Quack, Quack, Quack, In the City, and Around the House? These three games are sound identification games. The concept remains constant throughout the three games, but the stimuli changes. *Little Duck* has animal noises and sounds in nature, *In the City* has environmental city noises, and *Around the House* has household sounds. The purpose is to listen, discriminate, and then choose the correct response. The response field ranges from 2 to 16 choices.

When should my client play It Goes On and On and On? This is the reverse of a continuous performance task. The client indicates that the sound has stopped. The reaction time to the cessation of the stimulus is recorded. This is important for clients with shifting attention problems. They can attend to a presenting stimulus but have difficulty noticing when a stimulus is no longer present.

How can the computer tell whether the rhythm is the same on I've Got Rhythm? The client is to listen to the rhythm and establish a pace at either .5 or 1 second. The computer will play the pattern for 5 beats. The client is to establish the pace by tapping on the spacebar, then continue the pattern by tapping the spacebar at least 5 times after the pacing sound has stopped. The purpose of this game is to establish the 1 second pacing necessary for the *Stopwatch* game in the *High Level Attention Module*. The score is reported in the number of taps counted within the .5 or 1 second interval. A 100% pacing score indicates that the client tapped at least once during each .5 or 1 second interval. Any number under "Extra Taps" would indicate that the pacing was off and that the client gave more taps per interval than necessary. A pacing score of less than 100% would indicate that the client did not tap enough times in the measured intervals. The ultimate goal is to achieve a score of 100% Pacing, and 0 Extra Taps.

LANGUAGE ATTENTION

When would I want to use the games in ABC 123? The games, *What's My Name?* *What's My Sound?* *What's My Number?* and, *What's my IPA Symbol*, can be used for isolated phoneme imitation, sound/letter identification, alphabet letter name identification, and number naming. Most importantly, the game, *What's My IPA Symbol?* will provide you with the sound/symbol and alternate spelling combinations used in this CD. The appendix has a helpful guide to letters, sounds, place of articulation, and alternative spellings of the very complex sound system of English. Please refer to "LocuTour Guide to Letters, Sounds and Symbols." The International Phonetic Alphabet (IPA) was used as a guide for determining the sound/symbol associations. Every attempt was made to choose English words that "played by the rules." I'm sure a few odd words slipped in, so call us, and we'll make changes on subsequent releases.

Should I teach my client the game icons? As a speech and language pathologist, I have a bias toward labeling and naming. Yes, I think it really helps your clients to be able to talk about the "Fast Bunny" and the "Slow Turtle." This game was provided to give the client and the clinician a common vocabulary to communicate about the mechanics of running the games. The confidence of knowing that your client understands the phrase "Click on the Fast Bunny," allows you to focus on the question, "Does my client understand the concept of FAST?"

Is there a hierarchy in Photo Detail? Yes, the first level, *Point To* is a simple forced choice format with two choices in the field. The level, *Show Me*, increases the background complexity and requests the client to scan a complex picture for one item. The level, *What's Wrong Here?* is a game of visual absurdity. The Voice "On" option in this game, provides receptive language stimulation. After one or two times playing the game, I prefer to turn the Voice "Off" and encourage my clients to make up sentences to describe not only what's going *wrong* in the picture, but how they would make it *right!*

Is Cut Ups! really designed to improve spelling and reading skills? Yes! *Cut Ups!* is one of our most engaging games. We literally must pull the children away from this game at the end of the therapy session. They love it! And best of all, they are painlessly practicing sound segmentation, word blending, sound/letter association, reading, spelling, and visual perceptual skills. When was the last time your clients begged, "Could I just spell ten more words, *please?*"

Is And a One, Two, Three, also a reading and spelling game? Yes, the focus of *And a One, Two, Three* is to develop and reinforce syllable segmentation skills. There are probably many different clients on your caseload who could benefit from syllable segmentation and word naming. I personally use this game with both children and adults. The adults who use English as a Second Language love the independent vocabulary

building and sound imitation aspect of the task. It is very appropriate to use with clients with Central Auditory Processing Disorder, Aphasia, and Apraxia. I'm sure you'll find this to be a very versatile game with multiple applications. I have also used this game in a group setting, giving each child a set of felts. We all put out the number of felts we think we need then, "Check our work." I'll pick a child that has the target number of felts and ask her to, "Tap it out." She'll respond by touching each felt and saying, "pa go da." I'll have a neighbor check his pattern and, "Tap it out." This seems to be a great time to model reinforcement language. I'll use words to describe Jana's initial pattern. "Jana, you tapped out three syllables and said three syllables for that word." Tim, does your pattern match? Tim learns to compare and contrast his pattern with another. This has not led to competition because errors are handled with comparing and contrasting as well. If a child were to have put down four felts, he would have been assisted with tapping the felts as he said, "pa go da." I would then question, "Do we need to add felts, or take them away?" This generally prompts children to remove extra felts. If not, I would query with, "When we finished tapping, that means the word is done. Do we need to keep these felts out that came after our last tap?" If a child hasn't placed enough felts down for the target word during the assisted tapping we would continue to tap on the table to show where the felts should be added.

This group activity is a good time to allow children to hear from their peers, "You did great," "You really know how to count syllables." When this is done in a classroom with all the children, a child that is often not as successful at classroom tasks has the chance to shine. Most importantly, you allow the other children in the class to hear positive comments about a child's thinking skills. Sometimes this is enough to change mental pictures about a child's capabilities and sometimes it just plants a seed of confidence. It may be best to have the child with special needs practice the games away from the classroom first or outside of a group setting. When a demonstration is called for in the classroom, this child may have the confidence to be the leader to instruct the other children about how to play the games. Many games like Cut Ups!, And a 1,2,3, and Match Ups! can be played in a noncompetitive small group setting.

VISUAL PERCEPTUAL ATTENTION MODULE

What are the similarities and the differences between the Match Up Games? The *Match Up* games have the same game setup and rules. This consistency allows the client to focus on the task of visual perceptual discrimination and not have to re-learn game rules for each game. The difference between the games is the discrimination required. In *Match Up Colors*, the discrimination is between wide or fine color discrimination. In *Match Up Shapes*, the task is to visually discriminate between various levels of visual complexity. *Match Up Letters* allows both auditory and visual discrimination of isolated sounds of the English language. *Match Up Words* also allows auditory and visual discrimination, but of common English words. The hierarchy of

the levels allows the clinician to choose a success level and a challenge level for the client.

How does Patterns help with math skills? *Patterns* taps your client's ability to visually discriminate between shapes, define the rule, then extend and apply the rule to show generalization. This is an excellent tool to develop logical reasoning and generalization of simple rules which are pre-math skills.

Does Secret Decoder have any classroom skill applications? Yes, *Secret Decoder* is quite effective for children that have difficulty with sustaining attention while copying assignments from the board. This game is developing the skills of: "focus, read, remember, respond."

HIGH LEVEL ATTENTION

My client is an accountant and can't seem to concentrate to go back to work. Where should his training begin? Many Post Concussion Syndrome clients will begin the treatment sessions at the *High Level Attention Module*. These individuals are ambulatory, have physically healed from the accident, but are still complaining of attention, memory, and concentration problems. They find minor interruptions like phones ringing and people laughing at the coffee stand to be major impediments to concentration. Everything must be perfectly quiet and controlled, or they "just can't think."

Where do I begin? After you completely evaluate the client, you will know whether your client has deficits in orientation, language, attention, or memory. If your client is oriented and functioning in his activities of daily living, just not functioning well, let him start with the *High Level Attention Module*.

How many times a week should he use the training? Ideally, the computerized cognitive rehabilitation should be done every day. If he could train for an hour or two at home every day, in addition to the training at the office, his progress will be more rapid, and he will get back to work sooner.

What is the minimum training time? The minimum recommended training time is three hours a week. At this pace, it may take three to four months to see significant gains. More accurate and productive practice, in general, means faster progress.

What is the purpose of Stopwatch? *Stopwatch* is a sustained attention game. The key to getting improved times is to learn to set a pace, and maintain the pace for the entire 10 or 15 seconds. There are many ways to set the pace. The most effective ones require the client to tap, bounce, or rock to the counting rhythm.

Why can't I do this with a regular Stopwatch? You can! The convenience of doing

Stopwatch on the computer is that the trials are tabulated and scored for you. The pacing is automatically available as well, which is critical in the early training stages. But do encourage your clients to practice, practice, practice, at home. Have them keep a stopwatch next to their TV chair and mute the TV during the commercials. It is likely that they could get in 10 to 15 trials each commercial break! The more trials they do, the more improved their sustained attention becomes.

Why should my clients do Catch of the Day, they already know their numbers? Good, because this isn't a game about learning your numbers, you have to have that basic skill first. See the *Language Attention Module, ABC 123* if numbers are still a problem. This game is about visual scanning, sustained attention and figure ground discrimination. We also tried to include a comparative version for the very young child, or the visually impaired client. The large version still has only three numbers to find on each screen. Large Level 3 isn't as hard as level 9&10 on the small type version, because of screen size limitations.

What if my client just can't find the numbers? Use the menu option "Find Numbers." There will be no penalty, but she won't get credit for numbers not found.

Isn't Stoplight like Luria's Go/No Go task? Yes, it is, and it is set up to include all the training you need to get your client from the first day of therapy through the most difficult, advanced levels. (It is strongly recommended that you teach yourself this program before you have your clients try it. Don't procrastinate. You've got to learn to do it if they have to! It is worth it. Your mental flexibility will be so noticeable that your friends will start to comment on how "mentally flexible" you have become.

Is there a cognitive rationale for Stoplight? The real reason your clients are doing *Stoplight* is to improve cognitive flexibility. This is the rapid shifting of attention. It is a critical skill to be able to shift from one stimulus to another, all the while making accurate, quick judgments about the stimulus. Carryover seems to be spontaneous but more research in this area is needed. Once attention improves to the .5 second level, and the judgments are quick and accurate, the clients have reported that they no longer forget where they left their keys, or remember to move the clothes from the washer to the dryer before they get mildewed. There is increased awareness and attention to environmental stimuli and there is increased organization of the cognitive processes of the executive functioning of the frontal lobe.

Why do you need so many options on Stoplight? This is one of the more complex and challenging games on this interactive cognitive rehabilitation CD. The training levels allow your clients to work on red and green lights only. This is good, and may be an important step for some of your clients. However, most clients become accurate and fast at the red and green only level in just a few to maybe 10 trials. After a few successful trials with the red and green lights, I then practice just the yellow lights. It is recommended that you feel confident in the persons **accuracy** before allowing them to move on to the more challenging level of *Standard*. It is highly recommended that you schedule time to sit with the client the first few times playing this game. Their frustration level is often high initially and the extra encouragement is probably necessary. If you are confident that this training exercise is beneficial for them, will improve their executive functioning, attention, and decision making skill, then that confidence will be transferred. A clinical observation that I have made is that at .8 or .9 my clients seem to have more control over their verbal impulsivity. Swearing begins to extinguish and thoughtfulness about utterances or impulsive behaviors increases.

Why does the voice not work on the faster tempos? The *Voice* option automatically turns off at tempos below 1.5 s. per screen. The voice cannot keep up with the speed of the lights. By the time your client is practicing at 1.5 seconds, he should be saying, “Stop, Go” in his head and not need to rely on the voice.

Where does my client start? There are several ways to train on this task.

Sequence A: Jump right in! Tell the client that there are three colors to the lights, and only two choices. The **red** light means **stop** and they should press the “1” key to stop. **Green** means **go**; press the “3” key for go. The **small yellow** light means **stop**; the light is far enough away that by the time you get there, it will be red. The **large yellow** means **go**; you are right under the light so go ahead through.

Got it? Red = Stop = 1 or J
Green = Go = 3 or L
Small Yellow = Stop = 1 or J
Large Yellow = Go = 3 or L

I put red, green and yellow stickers on my keyboard for my patients. It helps in the beginning.

Sequence B: Practice red and green only from the 2.0 seconds per screen level to at least the .8 level. On the same day, practice yellow only from 2.0 to .8. Then put them together and move back up to 1.5 or 2.0 level. The move down to .8 should be rather quick and may happen in one to two sessions.

It is best to move your client right along and not hold him back at 2.0 if he is ready for a faster level. Accuracy is the primary goal. Later, the goal becomes speed of information processing. *Always* focus on accuracy first. It doesn't do anyone any good to learn speed and inaccuracy.

How do I transfer problem solving skills from Hoops to Activities of Daily Living?

This is an excellent game to establish some problem solving language. When I help the individual learn the task, I use the phrase, "What do you want to do next?" We also use if/then statements. "If you want the blue hoop to go on top of the red hoop *then* where do you need to put the green hoop?"

Establishing an "if/then" process approach can be transferred to activities of daily living problem solving. "If you need to heat up the burrito, *then* what do you need to do first? What will you do next?" I usually use the sentences, "What are you thinking?" and, "What are you going to do next?" This lays a foundation and common strategy that can be employed when teaching any other problem solving activity.

Why is the Stimulus Field Attention Training game included on the High Level Attention Training Module?

Stimulus Field Attention Training is a multidimensional cognitive task. The client must demonstrate *focused attention* as she responds to the visual stimuli, i.e. the center target and stimulus targets. The client must demonstrate *sustained attention* in order to continue the game. Playing ten trials in rapid succession is recommended. You may also change the Stimulus Presentations from 20 to 50 to lengthen the time each trial is played. The client must demonstrate *selective attention* as she decides whether a stimulus presentation is a target or non-target. She must demonstrate *alternating attention* as she evaluates and compares target/non-target decisions. Finally, she must demonstrate *divided attention* as she holds the target stimuli in mind and inhibit the response to click on a non-target. (Treatment model from Sohlberg and Mateer, 1987.)

Does Match Ups! help concentration?

Yes, *Match Ups!* is an excellent problem solving, reasoning and memory activity. It requires pre-planning, visual comparison, impulse control, sustained attention, and reasoning in order to develop successful strategies to complete the game. There are many options available. The clinician can choose the level of difficulty by choosing levels 1-4. There are many different pictures from which to choose. Some have high familiarity and linguistic content and some do not. I believe that it is the communication between our visual/spatial/language and memory areas that allows our brains to make complex integrated decisions. When there is an area of weakness, there should be a conscious effort to improve and support skill development through multisensory experiences. This game encourages storage and retrieval of familiar and unfamiliar information, auditory and visual stimuli or visual

alone with metacognitive association. It is a great game for improving concentration, memory and turn taking skills.

AUDITORY AND VISUAL MEMORY MODULE

Haven't I seen these games before? Yes, three games were chosen from the *Auditory Attention Module* and three games were chosen from the *Visual Perceptual Attention Module*. When your clients first worked on these games the intent was to develop auditory and visual attention and discrimination. The focus changes in this module. The goal now is to improve visual and auditory memory. The clients played the games before in an untimed setting in order to learn the game, discriminate the sounds, shapes or letters and gain **accuracy**. Now that you know they *can* be accurate, you can work on **speed and memory**. It's a great challenge, and fun too.

Chapter 2

Lesson Plans

Attention Deficit or Mild Traumatic Brain Injury

Who: Suggested sequence for children and adults with Attention Deficit Disorder, Frontal Lobe Syndrome, problems with: concentration; organization; language; memory storage and retrieval of information; sustained auditory and visual attention.

Establish a Treatment Plan: Explain, in age appropriate terms, this individual's strengths and weaknesses. Explain the purpose of each game and why he or she is working on this program. It is critical that the child or adult knows *what* program they are working on and *why*. Fill out an individualized treatment plan with the client. Establish the goals, estimate the expected time to achieve the goals, and evaluate the performance. You may use the sample goal sheet included in the manual.

Each lesson has been organized to focus on specific functions. The lessons should take approximately 20 minutes each. This gives the therapist flexibility with planning the treatment session. If attention is the primary goal, a one hour therapy session may include three "lessons" with the computer. If the therapy session is 30 minutes, you would have time for one computer lesson and ten minutes of one to one therapy. If this is a learning lab, you could have several children completing individual lessons on the computer and alternate children for one to one work. If this is a community college lab, you could have student assistants giving one to one help as needed and rotate among the students working on the lessons.

High Level Attention Focus

Lesson 1

1. Stopwatch: Begin at 10 seconds. Complete 10 trials.
2. Catch of the Day: Begin at level one. Complete 10 or 20 trials.
3. Stoplight: After you learn how to do Stoplight, begin at 1.0 seconds, Standard, No voice. Complete 10 trials.
4. Match Ups!: Complete 10 trials.

Extended Lesson 1

5. Hoops: Complete 10 trials.
6. Stimulus Field Attention Training: Complete 10 trials.

Language Attention Focus

Lesson 2

1. Cut Ups: Complete at least 10. Usually children will happily complete 30 or more.
2. And a One, Two, Three: Complete at least 10, preferably 30 or more.
3. Matching: Begin with Matching Letters Game, then move as appropriate through the levels of Word Matching.

Memory Focus

Lesson 3

1. Visual Memory Match Up: Complete 20 trials or more.
2. Auditory Memory Match Up: Complete 20 trials or more.
3. Secret Decoder: Complete 5 trials.
4. Match Ups!: Complete 5-10 trials.

Advanced Concentration and Problem Solving Focus

Lesson 4

1. Hoops: Complete 10 trials.
2. Stimulus Field Attention Training: Complete 10 trials.
3. Match Ups!: Complete 10 trials.

Generalization of Rules Focus

Lesson 5

1. Patterns: Play 10 or more trials.
2. Secret Decoders: Play 10 or more trials.
3. Match Ups!: Complete 10 trials.

It is appropriate to be working on all areas at the same time depending upon how much time each day can be dedicated to attention training. For the quickest progress, it is recommended that the child or adult work through lessons one through five every day. That would mean about two hours of therapy per day. It is not necessary to repeat games already played unless desired.

If two hours a day is not possible or desired, be consistent in the training. Do **not** do Lesson 1 one day, and Lesson 2 the next, etc. If you only have 20 minutes a day, only complete Lesson 1. Do Lesson 1 or Lesson 1 Extended alone for about one to three months. It is best to finish Lesson 1 Extended before moving to any other lessons unless you are working on the other lessons concurrently. Lesson 1 Extended has the core for improving attention and concentration and is the most important group of programs to improve sustained and focused attention.

After Lesson 1 is completed, then you can alternate between lessons. You may want to do the Language Focus on Monday, Wednesday and Friday, and the Memory Focus on Tuesday and Thursday. Once Lesson 1 is completed, there is more flexibility in choosing which other lessons to work on.

Post Coma or Major Traumatic Brain Injury

Who: Suggested sequence for children and adults Post Coma, Aphasia or Major Traumatic Brain Injury.

Establish a Treatment Plan: Explain, in age appropriate and comprehension level appropriate terms, this individual's strengths and weaknesses. Explain the purpose of each game and why he or she is working on this program. It is critical that the child or adult knows *what* program they are working on and *why*. Fill out an individualized treatment plan with the client. Establish the goals, estimate the expected time to achieve the goals, and evaluate the performance. You may use the sample goal sheet included in the manual.

Each lesson has been organized to focus on specific functions. The lessons should take approximately 20 minutes each. This gives the therapist flexibility with planning the treatment session. If this individual is just beginning to become alert, the Attention and Memory CD is only a part of the Orientation and Arousal program that the therapist offers. If the therapy session has extended to 30 minutes, you would have time for one computer lesson and ten minutes of one to one therapy. If this is a hospital based learning lab, you could have several clients completing individual lessons on the computer with a family member or aide sitting next to the client and giving support and assistance as necessary. Some patients need intensive one to one support and others work independently. Be sure to assess your client's frustration tolerance and be sure you, or a trained assistant, are available at all times to guide your client through the lessons. While these games were designed to be used with clients of any level of disability, it is the clinical sense of the therapist that is necessary to determine if the client is working at an appropriate level. I recommend that the client work at an 80% success rate. The goal is accuracy and consistency, *then* speed. We must focus on accuracy. It doesn't help anyone to get faster at making more mistakes.

Orientation Focus

Lesson 1

1. Sights and Sounds Around Me: Begin at 15 seconds. Complete 10 trials.
2. Meteor: Complete 10 trials.
3. Vocabulary Warm Up: 10 or more choices.

Respond to a Stimulus

Lesson 2

1. Hello!: Complete at least 10.
2. Left Ear/ Right Ear: Complete at least 10.
3. Tempo Please: Complete at least 10.
4. Loud or Quiet?: Complete at least 10.
5. High? Low? Here We Go!: Complete at least 10.

Retrieve an Auditory Memory and Match to a Picture

Lesson 3

1. And the Little Duck Says Quack, Quack: Complete 10 trials.
2. In the City: Complete 10 trials.
3. Around the House: Complete 10 trials.

Attention Focus

Lesson 4

1. It Goes On and On and On: Complete 10 trials.
2. I've Got Rhythm: Complete 10 trials.
3. Stopwatch: Complete 10 trials.

Higher Level Attention Focus

Lesson 5

1. Stopwatch: Complete 10 trials at 5 seconds or 10 seconds.
2. Catch of the Day: Complete 10 trials at level one or large type level one.
3. Stoplight: Complete 10 trials of Red and Green only, then Yellow only, then work toward Standard.
4. Hoops: Complete 10 trials at two and three hoops.
5. Match Ups!: Complete 10 trials at level one or two.
6. Stimulus Field Attention Training: Complete 10 trials.

Visual Perceptual Attention Focus

Lesson 6

1. Size Match Up: Complete 10 trials.
2. Match Up: Complete 10 trials.
3. Patterns: Complete 10 trials.
4. Secret Decoders: Complete 10 trials.
5. Match Ups!: Complete 10 trials at level three or four.

Language Attention Focus

Lesson 7

1. ABC 123: Complete 10 trials.
2. Photo Detail: Complete 10 trials.
3. Cut Ups: Complete 10 trials.
4. And a One, Two, Three: Complete 10 trials.

Auditory and Visual Memory Focus

Lesson 8

1. Visual Memory Match Up: Complete 10 trials.
2. Auditory Memory Match Up: Complete 10 trials.
3. Match Ups!: Complete 10 trials.

Highest Level Attention Focus

Lesson 9

1. Stopwatch: Begin at 15 seconds. Complete 10 trials.
2. Catch of the Day: Finish all levels. Complete 10 trials.
3. Stoplight: Goal is to get to .5 Standard, no voice. Complete 10 trials.
4. Hoops: Complete 10 trials. Move from three to five hoops.
5. Stimulus Field Attention Training: Complete 10 trials.
6. Match Ups!: Complete 10 trials at level three or four.

Chapter 3

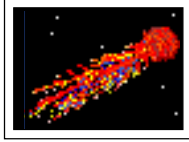
Games



Sights And Sounds Around Me

Video and Photos, Photos, Rapid Shifting

Objective	The client will visually attend to specified visual stimuli for increasing intervals of time.
How to Play	The clinician will assist the client in maintaining visual attention as the photographs and videos play on the screen. The client will watch the screen for a measured amount of time.
Response Options	The clinician can indicate whether the client maintained attention for the entire trial or not. When the client is attending, the button in the bottom left corner of the screen will say, "Viewing." When the client is distracted or not on task, the clinician can click anywhere on the screen and the timer will stop. The button in the left corner will say, "Not Viewing." The approximate amount of time that the client has viewed the screen, as determined by the clinician's monitoring, is reported on the results screen.
Options	<p><i>Random on:</i> Photographs or videos appear in a random order on the screen for a fixed amount of time, video 8 seconds and photographs 3 seconds.</p> <p><i>Random off:</i> Photographs appear on the screen for a fixed amount of time and in the same fixed order.</p> <p><i>Continuous Play:</i> (Default mode) Click the mouse when the client is not attending. Click again when the client resumes attention. The client will receive a score for time that the clinician observed the client attending. With <i>Continuous Play "off"</i>, the clinician may use this game as a word naming task. This game is provided for the clinician as a tool and clinical intervention is required.</p> <p><i>Categories:</i> Animals, clothing, food, household, kitchen, outside, patterns and textures, plants and toys. When you select the options under <i>Categories</i>, the default options are changed to: <i>Random "off"</i> and <i>Continuous Play "off"</i>. This allows the clinician to use this game as a confrontation naming task or other language therapy task utilizing real pictures. There are no videos at this level. <i>Random "on"</i> will randomize within the category. <i>Random "off"</i> allows the clinician to maintain the exact sequence for naming from trial to trial. <i>Continuous Play</i> may be turned "off". When you choose a category, you must use the finish button to end the game. The level <i>Rapid Shift</i> will continue to play randomly between 1 1/2 seconds and 4 1/2 seconds.</p>
Tempo	<i>View Time:</i> Determines the amount of time for each trial. Viewing times are 5 minutes, 3 min., 1 min., 60 sec., 45, 30, 25, 20, 15 seconds.
Screens	166 photographs, 25 Videos
Game Results	Trial, Level, Seconds, Not Viewed
Rationale	This task is intended for clients in Rancho Levels III, V and VI and focuses on Luria's (1973) first functional unit, arousal. Essentially, this is a computer operationalized version of standard clinical techniques for clients either in, or emerging from coma, and could be used prior to or in concert with, the initial tasks in the Ben-Yishay, Piassetzky and Rattock's (1987) Orientation Remediation Module.
Alternative	This game can also be used for confrontation naming for higher level clients but clinician training and support is necessary.



Meteor

Simple, Complex, With Distractors

Objective The client will track a visual stimulus for longer intervals of time with increasing background interference.

How to Play The clinician will assist the client in maintaining visual attention as the meteor or other object, moves across the screen. The client will watch the screen for a measured amount of time.

Response Options The clinician can indicate whether the client maintained attention for the entire trial or not. When the client is attending, the button in the bottom left corner of the screen will say, “*Viewing.*” When the client is distracted or not on task, the clinician can click on the mouse and the timer will stop. The button in the corner will say, “*Not Viewing.*” The approximate amount of time that the client has viewed the screen, as determined by the clinician’s monitoring, is the result reported.

Options *Random:* On or off.

Tempo *View Time:* Determines the amount of time for the trial. Viewing times are 60 sec., 45, 30, 25, 20, 15 seconds.

Game Results Trial, Level, View Time, Not Viewing

Rationale This task is intended for clients in Rancho Levels III, V, and VI and also requires the client to maintain a state of tonic arousal and remain actively vigilant in order to track a visual stimulus. This task is compatible with Parente’s (1985) Stage II Vigilance tasks.

This game is appropriate for pediatric clients. It requires the child to scan the entire visual array and selectively attend to specific stimuli. A conceptual component is introduced by requiring the client to demonstrate an appreciation of the absurdity of the stimulus relative to the context. This is a passive attention task. The clinician records the initiation and termination of observable behavioral correlates of the process of attending to stimuli.



Hello!

Video, Photographs, Drawings

- Objective**
1. The client will attend to auditory and visual cues to answer the phone and successfully identify the speaker (Option: Voices I).
 2. The client will answer the phone and correctly identify the first of two consecutive speakers utilizing auditory and visual stimuli (Option: Voices II).

How to Play The client will be presented with a ringing phone. The client will click on, or touch the receiver, to pick up the phone. Objective 1. Click on the first person to speak. Objective 2. Listen to both speakers. Remember which one spoke first, then click on the first speaker. Click on the repeat button or press *R* to replay the stimulus.

Response Options

Touch screen: Touch the face of the person that spoke first.
Keyboard: Touch the number that corresponds to the person that spoke first.
Mouse: Click on the face or number that corresponds to the first speaker.

Levels and Options

Video: Auditory and visual information available
Photographs: Actual photographs of people with auditory stimulus.
Drawings: Abstract representations of people with auditory stimulus.
Random: On/off.
Show matches
Pause on Error
Voices: One.

Game Results Trial, Level, Number Viewed, Percent Correct. Results reflect how many stimulus items the client played and percent correct.

Rationale This task is intended for clients in Rancho Level VI and above. The client is required not only to sustain attention and perform discriminations, but a minimal short-term memory demand is introduced. Focusing on Luria's (1973) second functional unit, receiving, analyzing and storing information, this task is compatible with Parente's (1985) Stage III Attention with Discrimination tasks with elements of Stage IV, Attention/Concentration with Sustained Recent Memory.

Alternative This game is appropriate for hearing impaired individuals involved in an auditory habilitation or auditory rehabilitation program.



Left Ear? Right Ear?

Left Ear, Right Ear, Discriminate , Alternate

WARNING Check decibel level of headphones before placing headphones on the client. Recommended level not to exceed 85 dB.

NOTE Be sure to check that the stereo headphones are on the correct ear, i.e. left on the left ear, right on the right ear.

Objective

1. The client will respond to an acoustic signal presented to either ear.
2. The client will discriminate and respond to acoustic signals presented to both ears randomly.

How to Play The client will wear headphones and indicate in which ear the sound has been presented.

Response Options

Touch screen: Touch left or right ear picture on the screen.
Keyboard: Touch 1 for left and 2 for right ear on keyboard.
Mouse: Click “1” or “Left Ear” for left, and “2” or “Right Ear” for right.

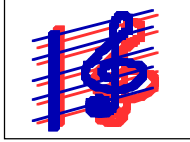
Levels and Options

Left Ear: A sound will play only in the left ear. The client listens and makes a response when the sound is heard.
Right Ear: A sound will play only in the right ear. The client listens and makes a response when the sound is heard.
Discriminate: The sound will be presented randomly in the left or right ear. The sound plays for 3 seconds and the client indicates in which ear the sound has been presented.
Alternate: Listen in Left or Right Ear. This is a passive auditory attention task. No response is necessary.
Random: N/A
Show Matches
Pause

Game Results Trial, Level, Seconds, Percent Correct.

Rationale This task is intended for clients in Rancho Levels V and VI and requires sustaining attention and making discriminations. Localization of sounds based on intensity requires an intact lateral portion of the superior olive of the medulla while localization based on phase difference demands intact functioning of the medial portion. Focusing on Luria’s (1973) second functional unit, receiving, analyzing and storing information, this task is compatible with Parente’s (1985) Stage III Attention with Discrimination tasks.

Alternative This game is appropriate for hearing impaired individuals involved in an auditory habilitation or auditory rehabilitation program.



Tempo Please!

Slow, Rapid, Mix

Objective 1. The client will recognize and respond to fast and slow auditory signals.
2. The client will discriminate and label fast and slow auditory signals from a random presentation.

How to Play Client will hear and see different sounds playing fast or slow. The client will make a response to indicate a fast tempo or a slow tempo.

Response Options *Touch screen:* Touch the *Fast Bunny* icon or *Slow Turtle* icon.
Keyboard: Touch 1 (fast) or 2 (slow).
Mouse: Click on the *Fast Bunny* icon or *Slow Turtle* icon.

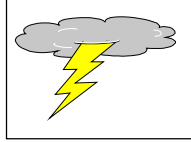
Levels and Options *Slow:* This is a training level for identifying slow sounds. A sound with a slow tempo will play. The client listens and makes a response when the tempo is determined.
Rapid: This is a training level for identifying rapid sounds. A sound with a rapid tempo will play. The client listens and makes a response when the tempo is determined.
Mix: A sound with a slow or rapid tempo will play. The client listens, discriminates, and makes a response when the sound is heard.
Random: On/off.
Show Matches
Pause on Error

Screens 15 animated screens.

Game Results Trial, Level, Seconds, Percent Correct.

Rationale This task is intended for clients in Rancho Level VI and above. The client must sustain and shift attention as well as perform discriminations. A degree of rhythm perception and remote memory is required. While the difficulties encountered by the client on this task may be due to primary attentional difficulties, Luria (1973) notes that the synthesis of rhythmic stimuli is a function of the temporal lobes. Focusing on Luria's (1973) second functional unit, receiving, analyzing and storing information, this task is compatible with Parente's (1985) Stage III Attention with Discrimination tasks.

Alternative This game is appropriate for hearing impaired individuals involved in an auditory habilitation or auditory rehabilitation program.



Loud Or Quiet?

Loud, Quiet, Mix.

- Objective**
1. The client will recognize and respond to loud or quiet auditory signals.
 2. The client will discriminate and label loud or quiet auditory signals from a random presentation.

How to Play Identify the sound as a loud or quiet sound by clicking on the *Loud* or *Quiet* icon.

Response Options

Touch screen: Touch on the *Loud Thunder* or the *Quiet Mouse Reading* icon.
Keyboard: Touch 1 (loud) or 2 (quiet).
Mouse: Click on the *Loud Thunder* or the *Quiet Mouse Reading* icon, or 1 or 2.

Levels and Options

Loud: A loud sound will play. The client listens and makes a response when the sound is heard.
Quiet: A quiet sound will play. The client listens and makes a response when the sound is heard.
Loud and Quiet: A loud or quiet sound will play. The client listens, discriminates, and makes a response when the sound is heard.
Random: N/A
Show Matches
Pause on Error

Game Results Trial, Level, Seconds, Percent Correct.

Rationale This task is intended for clients in Rancho Level VI and above. The client must sustain and shift attention as well as perform directional pitch discriminations. Luria (1973) notes that the analysis and synthesis of acoustic information is a function of the temporal lobes with the right temporal lobe playing a more predominant role. This task is compatible with Parente's (1985) Stage II Attention with Discrimination tasks although short-term retention of the stimulus is also required.

Alternative This game is appropriate for hearing impaired individuals involved in an auditory habilitation or auditory rehabilitation program.



High? Low? Here We Go!

High, Low, Mix.

- Objective**
1. The client will recognize and respond to high or low auditory signals.
 2. The client will discriminate and label high or low auditory signals from a random presentation.

How to Play Identify the sound as a HIGH or a LOW sound by clicking on the high or low icon.

Response Options

Touch screen: Touch on the *High Mountain* or the *Low Lake* icon.
 Keyboard: Touch 1 (high) or 2 (low).
 Mouse: Click on the *High Mountain* or the *Low Lake* icon or 1 or 2.

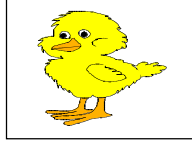
Levels and Options

High: A high pitched sound will play. The client listens and makes a response when the sound is heard.
Low: A low pitched sound will play. The client listens and makes a response when the sound is heard.
Mix: A high or low pitched sound will be presented randomly. The client indicates whether a high or low sound has been presented.
Random: On/off.
Show Matches
Pause on Error

Game Results Trial, Level, Seconds, Percent Correct.

Rationale This task is intended for clients in Rancho Level VI and above. The client must sustain and shift attention as well as perform directional pitch discriminations. Luria (1973) notes that the analysis and synthesis of acoustic information is a function of the temporal lobes with the right temporal lobe playing a more predominant role. This task is compatible with Parente's (1985) Stage III Attention with Discrimination tasks although short-term retention of the stimulus is also required.

Alternative This game is appropriate for hearing impaired individuals involved in an auditory habilitation or auditory rehabilitation program.



And the Little Duck Says Quack, Quack

Level 1 = 2-4 choices in the field

Level 2 = 5-8 choices in the field

Level 3 = 9-12 choices in the field

Level 4 = 13-16 choices in the field

Objective The client will match an auditory stimulus to a visual stimulus with increasing complexity of visual field.

How to Play The client will listen to the animal and outside noises. The client will choose the picture of the item that is making that sound. The sound will stop when a choice is made. You can replay the sound after an incorrect choice by clicking on the repeat button or pressing *R*.

Response Options *Touch screen:* Touch the picture of the item that is making the sound.
Keyboard: Not available.
Mouse: Click on the picture of the item that is making the sound.

Options *Random:* "Random On" plays randomly within the level and does not randomize between levels. For example, Random Level 1 could have two, three or four choices in the field. "Random Off" plays all games in a fixed order, within a level. Within Level 1, all of the screens with two pictures will play first, then all with three, and finally, all of the screens with four pictures. The other levels play in a similar fashion.

Show Matches: When this option is "Off" the client moves from screen to screen without immediate feedback on whether the answer was correct. This option can be used by the clinician for pre, interim, and post testing.

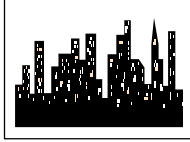
Pause on Error: A pause before proceeding to the next screen allows the client time to evaluate erred responses and learn to correct the error. This option may be turned "Off" and the client moves from one screen to the next without pausing to handle errors. This is only recommended for pre, interim, and post testing.

Screens Pictures and sounds of animals, farms, and nature.

Game Results Trial, Level, Seconds, Percent Correct.

Rationale This task is intended for clients in Rancho level VII and may be appropriate for some level VI clients who can maintain goal-directed behavior with external direction. The client is required to attend to a brief auditory stimulus, label the stimulus, and perform a motor response indicating the results of that analysis. Information must be held in working memory during the period of analysis and motor execution.

Alternative This game is appropriate for hearing impaired individuals involved in an auditory habilitation or auditory rehabilitation program. This game is also recommended for young children learning language, children with central auditory processing dysfunction and children and adults with short term auditory memory dysfunction.



In The City

Level 1 = 2-4 choices in the field

Level 2 = 5-8 choices in the field

Level 3 = 9-12 choices in the field

Level 4 = 13-16 choices in the field

Objective The client will match an auditory stimulus to a visual stimulus with increasing complexity of visual field.

How to Play The client will listen to the city noises. The client will choose the picture of the item that is making that sound. The sound will stop when a choice is made. You can replay the sound after an incorrect choice by clicking on the repeat button or pressing *R*.

Response Options *Touch screen:* Touch the picture of the item that is making the sound.
Keyboard: Not available.
Mouse: Click on the picture of the item that is making the sound.

Options *Random:* "Random On" plays randomly within the level and does not randomize between levels. For example, Random Level 1 could have two, three or four choices in the field. "Random Off" plays all games in a fixed order, within a level. Within Level 1, all of the screens with two pictures will play first, then all with three, and finally, all of the screens with four pictures. The other levels play in a similar fashion.

Show Matches: When this option is "Off" the client moves from screen to screen without immediate feedback on whether the answer was correct. This option can be used by the clinician for pre, interim, and post testing.

Pause on Error: A pause before proceeding to the next screen allows the client time to evaluate erred responses and learn to correct the error. This option may be turned "Off" and the client moves from one screen to the next without pausing to handle errors. This is only recommended for pre, interim, and post testing.

Screens Pictures and sounds of city streets, offices, and stores.

Game Results Trial, Level, Seconds, Percent Correct.

Rationale This task is intended for clients in Rancho Level VII and may be appropriate for some level VI clients who can maintain goal-directed behavior with external direction. The client is required to attend to a brief auditory stimulus, label the stimulus, and perform a motor response indicating the results of that analysis. Information must be held in working memory during the period of analysis and motor execution.

Alternative This game is appropriate for hearing impaired individuals involved in an auditory habilitation or auditory rehabilitation program. This game is also recommended for young children learning language, children with central auditory processing dysfunction and children and adults with short term auditory memory dysfunction.



Around the House

Level 1 = 2-4 choices in the field

Level 2 = 5-8 choices in the field

Level 3 = 9-12 choices in the field

Level 4 = 13-16 choices in the field

Objective The client will match an auditory stimulus to a visual stimulus with increasing complexity of visual field.

How to Play The client will listen to the house noises. The client will choose the picture of the item that is making that sound. The sound will stop when a choice is made. You can replay the sound after an incorrect choice by clicking on the repeat button or pressing *R*.

Response Options *Touch screen:* Touch the picture of the item that is making the sound.
Keyboard: Not available.
Mouse: Click on the picture of the item that is making the sound.

Options *Random:* "Random On" plays randomly within the level and does not randomize between levels. For example, Random Level 1 could have two, three or four choices in the field. "Random Off" plays all games in a fixed order, within a level. Within Level 1, all of the screens with two pictures will play first, then all with three, and finally, all of the screens with four pictures. The other levels play in a similar fashion.

Show Matches: When this option is "Off" the client moves from screen to screen without immediate feedback on whether the answer was correct. This option can be used by the clinician for pre, interim, and post testing.

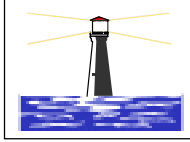
Pause on Error: A pause before proceeding to the next screen allows the client time to evaluate erred responses and learn to correct the error. This option may be turned "Off" and the client moves from one screen to the next without pausing to handle errors. This is only recommended for pre, interim, and post testing.

Screens Pictures and sounds from inside and outside the house.

Game Results Trial, Level, Seconds, Percent Correct.

Rationale This task is also intended for clients in Rancho level VII and may be appropriate for some level VI clients who can maintain goal-directed behavior with external direction. The client is required to attend to a brief auditory stimulus, label the stimulus, and perform a motor response indicating the results of that analysis. Information must be held in working memory during the period of analysis and motor execution.

Alternative This game is appropriate for hearing impaired individuals involved in an auditory habilitation or auditory rehabilitation program. This game is also recommended for young children learning language, children with central auditory processing dysfunction, and children and adults with short term auditory memory dysfunction.



It Goes On And On And On....

Auditory Cue, Visual Cue, Both Auditory and Visual Cues

Objective The client will recognize the cessation of a stimulus. The stimulus can be auditory, visual, or both.

How to Play Click on the *Start* button or press *S* to start the stimulus. Listen to the sound, and/or watch the object moving. Indicate when the sound has stopped and/or the object has stopped moving by clicking the *Stop* button or pressing the spacebar.

Response Options *Touch screen:* Touch the *Stopsign* when the stimulus ends.
Keyboard: Touch the spacebar when the stimulus ends.
Mouse: Click on the *Stopsign* when the stimulus ends.

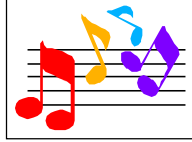
Options *Random*
Show Matches
Pause On Error

Screens 6 primarily auditory; 6 primarily visual.

Game Results Trial, Level, Response Time, Percent False Stops.

Rationale This task is intended for clients in Rancho Level VI and above. The task requires sustained auditory attention, the ability to maintain a consistent behavioral response during continuous or repetitive activity, in this case attending to the sound, and involves vigilance as well as reaction time. This task is compatible with Parente's (1985) Stage II Vigilance tasks.

Alternative This game is appropriate for hearing impaired individuals involved in an auditory habilitation or auditory rehabilitation program. This game is appropriate for children and adults with attention deficit disorder and others with difficulty shifting attention from one stimulus to another.



I've Got Rhythm!

Auditory Cue, Visual Cue, Both

Objective The client will reproduce the rhythm of an auditory or visual signal. This is a suggested training activity to prepare the client for Stopwatch (High Level Attention).

How to Play *Auditory Cue:* Listen to the sound tempo. When the sound stops, imitate the tempo by touching the spacebar with the same tempo as the stimulus. Tap the space bar for five more beats keeping pace with the original tempo set in the first 5 beats.

Visual Cue: Watch the screen to determine the visual tempo. When the movement stops, imitate the tempo by touching the spacebar with the same tempo as the stimulus. Tap the space bar for five more beats keeping pace with the original tempo set in the first 5 beats.

Response Options *Touch screen:* Not Available.

Keyboard: Tap the pattern out on the spacebar.

Mouse: Tap the pattern out by clicking the mouse.

Options *Random*

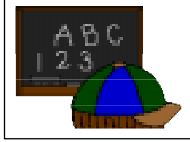
Screens 15 Auditory and Visual tempos of 1 second or .5 seconds.

Game Results Trial, Level, Paced, Extra Beats.

The score is the percent of responses within the standard deviation of the time and tempo means.

Rationale This task is intended for clients in Rancho Level VI and above. The task pinpoints Luria's (1973) second functional unit, receiving, analyzing and storing information, and is believed to involve primarily right temporal lobe functions, but certainly frontal lobe functions are involved as well.

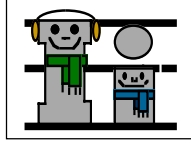
Alternative This game is appropriate for children learning pre-reading and math skills, children and adults with reading and spelling difficulty, short term memory problems, or sustained and shifting attention difficulties.



ABC 123

What's My Name, What's My Number
What's My Sound, What's My IPA Symbol.

- Objective** The client will repeat letter names, numbers, letter sounds, and IPA Symbol sounds after the voice stimulus.
- How to Play** The client listens to the voice and watches the screen, then repeats the name of the letter, the name of the number, the sound of the letter, or the sound of the IPA symbol. Click on the *Repeat* button to hear the voice again. Click on the *Continue* button to move to the next screen.
- Response Options** *Touch screen:* Touch the *Repeat* button to repeat the sound or word, and touch *Continue* to move to the next screen.
Keyboard: Touch the letter *R* to repeat the word and *C* to continue.
Mouse: Click on the *Repeat* button to repeat the word. Click on the *Continue* button to move to the next screen.
- Options** *Random*
Continuous Play
- Game Results** Trial, Level, Seconds, Number of Screens Viewed.
- Rationale** This task is intended for clients in Rancho Level VII and above and requires the ability to attend to an auditory stimulus.
- This task is designed to prepare the client for the letter, number and word recognition tasks found later in this and other modules. This game establishes the “rules” for consonant and vowel sounds utilized in this program.
- Alternative** This game is appropriate for children and adults learning, language, pre-reading and math skills, or those with reading and spelling difficulty.



Vocabulary Warm Up

Game Icons, Objects

Objective The client will label and repeat icons for the games and common words, after the real voice stimulus.

How to Play Listen to the voice name the icon or object. Repeat the word after the real-voice stimulus. If you need to listen to the word again, click on the *Repeat* button. When you are ready to move to the next word, click on the *Continue* button.

Response Options *Touch screen:* Touch *Repeat* to repeat the word, and touch *Continue* to move to the next screen.

Keyboard: Press *R* or the repeat button to repeat the sound and *C* to *Continue*.

Mouse: Click on the *Repeat* button to repeat the word. When you are ready to move to the next word, click on the *Continue* button.

Options *Random*

Game Results Trial, Level, Seconds, Number Viewed.

Rationale This task is intended for clients in Rancho Level VII and above and requires the ability to attend to an auditory stimulus, appreciate sound segments, and guided by known visual stimuli, integrate the sound segments into a meaningful whole.

This game provides the opportunity for the clinician and the client to become accustomed to the game icons necessary for independent work with this program. At this training task, the clinician can determine the client's ability to play other games. For example, can the client identify the *fast* icon when presented with the *fast* and *slow* icons. This will allow the clinician to determine if the client understands the mechanics of performing the tasks required. If there is difficulty, the clinician can determine where the breakdown is occurring. The client can then practice and become successful at the task that is giving them difficulty.

Alternative This game is appropriate for children and adults learning the English language.

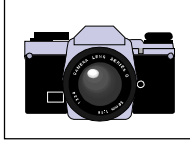
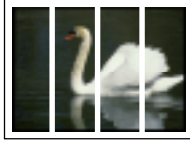


Photo Detail

Point To, Show Me, What's Wrong Here?

- Objective** The client will identify a part from a whole picture as requested with increasing complexity of auditory comprehension.
- How to Play** The client will listen to a word, phrase or sentence and find the item requested. Press *R* or click on the repeat button to replay the stimulus or to replay the screen when an incorrect choice is made. The *Repeat* button is not available for "What's Wrong Here?".
- Response Options** *Touch screen:* Touch on the item requested.
Keyboard: Not available.
Mouse: Click on the item requested.
- Options** *Random*
Show matches
Pause on Error
- Game Results** Trial, Level, Seconds, Percent Correct.
 Number of items found correctly.
 Number of missed items.
 Number of items highlighted from *Show Answer* button.
- Rationale** This task is intended for clients in Rancho Level VII and above and requires the ability to attend to an auditory stimulus, appreciate sound segments, and guided by known visual stimuli, integrate the sound segments into a meaningful whole.
- Alternative** This game is appropriate for children and adults learning the English language.



Cut Ups

Level 1, Level 2, Level 3, Mix Levels

Objective The client will sequence two to five pieces of a picture when a visual and auditory model is provided.

How to Play The client will listen to the word as it is pronounced. Encourage the client to think about how many sounds there are in that word. It is most helpful to use a multisensory approach to sound segmentation. You will need to develop motor kinesthetic awareness of speech sounds through *feeling* the sounds as they are made with the lips, tongue, teeth, palate and as the sounds resonate in the oral and nasal cavity. Develop kinesthetic awareness of the voicing/ voiceless features of phonemes and compare the sameness and difference between sounds. *Feel* the sounds as they are made. Both the client and clinician can freely use mirrors to look at the mouth and *see* the articulators as individual speech sounds are made, this develops visual discrimination between sounds. And finally, encourage the client to listen to the sounds and *hear* the difference between the sounds. Rely heavily on the other senses of feeling and seeing to integrate the auditory mode. Sound segmentation is not just an auditory task. Integrate the sensory systems to allow the client the greatest possible success.

The words for this game have been cut up into the correct number of sounds. Line up the cards with the letters onto the blank cards in the order that you hear the sounds. Check your mouth to *feel* the order of the sounds as well. If you need to listen to the sound by itself, click on the *Sound* button or the card in the box on the left. If you need help blending the word together, click on the *Blended* button. If you want the computer to show you the answer, click on the *Show Answer* button. Don't be fooled by the number of letters, we're thinking about how many *sounds* there are in this word. Some sounds have two letters, like *oi, oy, ow, ou, oo, au, aw, er, ir, ur, ar, or, ae, oa, ai, ay, ey, ch, sh, zh, th, th, wh, and ng*. Some vowels have one sound but the letter *e* is split off from the other vowel partner. For example: *ae, ee, ie, oe, and ue* are usually written with a consonant in between, i.e., "tape" and "cute." So think about how many *sounds* that you *see, hear, and feel* as you say the word.

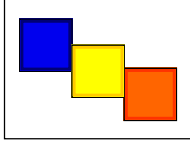
Response Options: *Touch screen:* Touch the card and drag it to the correct blank card space.
Keyboard: Cards cannot be moved with the keyboard. Touch the letter *W* to hear the word said, the letter *S* to hear the syllables in the word, or the letter *B* to hear the syllables blended together.
Mouse: Click on the card and drag it with the mouse click *down*, to the correct blank card space and then release the mouse.

Options *Random*

Game Results Trial, Level, Average Seconds for each Screen, Percent Correct.

Rationale This task is intended for clients in Rancho Level VII and above as it requires the ability to attend to a complex auditory stimulus, analyze the sound segments, and holding this analysis in memory, perform a motor response. This task involves a degree of conceptual or symbolic functioning. At a basic level, the client can "think it through" one auditory segment at a time while an individual capable of more complex processing can implement his entire analysis before verification.

Alternative This game is appropriate for children and adults who: are learning language, pre-reading, and math skills; have difficulty with reading or spelling; or have a central auditory processing dysfunction.



And A One, Two, Three!

Single Words, Multiple Words

Objective The client will indicate the number of syllables for an auditorially presented word.

How to Play The client will listen to the word as it is pronounced. The client will think about how many *syllables* there are in that word. If she needs help, click on the *Syllable* button and the word will be said in syllable chunks. Count the number of syllable chunks. Tap out the number of chunks on the table, or clap the number of syllable chunks. You can use cut out felt squares to use on the table in front of you to count the syllables. Play the *Syllable* button again and this time, the client will count the syllables to check herself. When she is sure, she can pull down the colored squares from the pile and place one on the line for each *syllable* that she counts. The client can always pull down the colored squares, then click on *Syllable* to re-check their work.

Response Options *Touch screen:* Touch the colored square and drag it to the line below. Drag one colored square for each syllable chunk.

Keyboard: The number keys 1-6 correspond to a colored square. If you type a 1, the first colored square moves down, etc. Type the letter *W* to hear the word said or the letter *B* to hear the syllables.

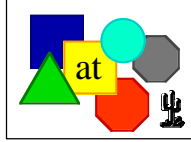
Mouse: Click on the colored square and drag it to the line below. Drag one colored square for each syllable chunk.

Options *Random*

Game Results Trial, Level, Seconds, Percent Correct.

Rationale This task is intended for clients in Rancho Level VII and above as it requires the ability to attend to a complex auditory stimulus, analyze the sound segments, and holding this analysis in memory, perform a motor response. This task requires an appreciation of sound segments, the ability to link sound and symbol, and the motor ability to represent this information spatially.

Alternative This game is appropriate for children learning to read, children and adults with reading and spelling difficulty, short term memory problems, sustained and shifting attention difficulties, or central auditory processing dysfunction.



Visual Perceptual Attention Module

Match Up Games

*Match Up Size, Match Up Color, Match Up Shapes
Match Up Letters, Match Up Words*

How to Play Each game isolates one feature in the training level, i.e., size, color, shape, letter, or word. In the subsequent levels, two features may be combined, or one must ignore the feature of color and respond to the feature of size. Indicate which size, color, shape, letter, or word matches the stimulus presented at the top of the screen.

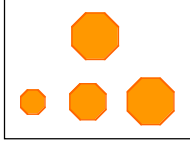
Response Options *Touch screen:* Touch the shape to indicate response.
Keyboard: Press 1, 2, 3, 4, 5, to indicate response.
Mouse: Click on shape to indicate response.

Options *Random*
Show Matches
Pause on Error

Game Results Trial, Level, Seconds, Percent Correct.

Rationale See individual levels.

Alternative This game is appropriate for children learning pre-reading and math skills, children and adults with reading and spelling difficulty, short term memory problems, or sustained and shifting attention difficulties.

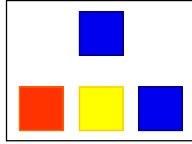


Match Up Size

Objective The client will match various sizes of shapes from a field of five shapes.

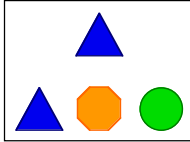
Rationale The task is intended for clients in Rancho Level VI and above and draws on Luria's (1973) concept of the "optic analyzer." Luria conceptualizes higher visual functions as being divided into four stages, the first being examining the object, the second distinguishing the essential features of the object, the third establishing the relationship between the essential features of the object, and the fourth integrating the relationships of the individual features in to patterns. This task challenges the client to attend to the presented shapes, determine the essential feature (size), note the relationship between the presented objects, calling into action the evaluative functions of Luria's third functional unit, and then perform a motor act to indicate the results of this process.

Alternative This game is appropriate for children learning pre-reading and math skills, children and adults with reading and spelling difficulty, short-term memory problems, or sustained and shifting attention difficulties.



Match Up Color

- Objective** The client will match colors from a field of three to five colors.
- Rationale** This task provides an alternative to Size Match Up, introducing the concept of color as the essential feature. The ability to discriminate both gross color differentiation and hues is required. This task draws upon areas V1, V2 and V4 of the occipital cortex as well as areas of the temporal, parietal and frontal cortex.
- Alternative** This game is appropriate for children learning pre-reading and math skills, children and adults with reading and spelling difficulty, short-term memory problems, or sustained and shifting attention difficulties.



Match Up Shapes

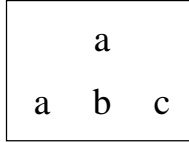
Objective The client will select matching shapes from a field of three to five shapes.

Specific Objectives for each level:

- VERY SIMPLE SHAPES. The client will select matching simple shapes from a field of three shapes.
- SIMPLE SHAPES. The client will select matching simple shapes from a field of five shapes.
- COMPLEX SHAPES. The client will select matching complex shapes from a field of five shapes.
- NONSENSE SHAPES. The client will select matching nonsense shapes from a field of five shapes.
- NONSENSE DESIGNS. The client will select matching nonsense designs from a field of five designs.
- COLOR AND SHAPE. The client will select matching color and shape from a field of five colored shapes.
- COMPLEX DESIGNS. The client will select matching complex shapes from a field of five shapes.

Rationale This task is intended for clients in Rancho Level VI or VII and above, drawing on Luria's (1973) third functional unit, planning and verification activity and requiring perceptual analysis and appreciation of spatial information. This task requires psychomotor performance and is relatively unaffected by premorbid intellectual ability, long-term memory functioning or previous learning. It requires motor persistence, sustained visual attention and scanning, response speed, visuomotor coordination and the ability to hold the information in working memory long enough to complete the response.

Alternative This game is appropriate for children learning pre-reading and math skills, children and adults with reading and spelling difficulty, short-term memory problems, or sustained and shifting attention difficulties.



Match Up Letters

Objective The client will select matching letters from a field of four letters.

Specific Objectives:

- **CONSONANTS:** Objective: The client will select matching consonants from a field of four consonants.
- **VOWELS:** Objective: The client will select matching vowels from a field of four vowels.
- **CONSONANTS AND VOWELS:** Objective: The client will select matching consonants or vowels from a field of four consonants or vowels.

Rationale Similar to Match Up Size, Match Up Color, Match Up Shape, this task is also intended for clients in Rancho Level VI or VII and above, drawing on Luria's (1973) third functional unit, planning and verification of activity and requiring perceptual analysis and appreciation of spatial information. However, this task also introduces an emphasis on featural analysis using familiar forms which can be easily labeled. The task also requires motor persistence, sustained visual attention and scanning, response speed, visuomotor coordination and the ability to hold the information in working memory long enough to complete the response.

Alternative This game is appropriate for children learning pre-reading and math skills, children and adults with reading and spelling difficulty, short-term memory problems, sustained and shifting attention difficulties, or central auditory processing dysfunction.

at
cat at hat

Match Up Words

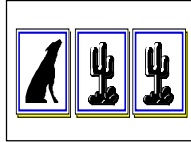
Objective The client will select a matching single syllable word from a field of four words.

Specific objectives

1. SIMPLE SYLLABLES V/CV/VC. The client will select a matching simple syllable word from a field of four simple syllable (v/cv/vc) words.
2. SIMPLE SYLLABLES CVC. The client will select a matching simple syllable word from a field of four simple syllable words (cvc).
3. COMPLEX SYLLABLES CCV/VCC. The client will select matching complex syllables from a field of four complex syllables (ccv/vcc).
4. COMPLEX SYLLABLES CCVC. The client will select matching complex syllables from a field of four complex syllables (ccvc).
5. COMPLEX SYLLABLES CVCC. The client will select matching complex syllables from a field of four complex syllables (cvcc).
6. COMPLEX SYLLABLES CCVCC. The client will select matching complex syllables from a field of four complex syllables (ccvcc).
7. COMPLEX SYLLABLES CCCVC. The client will select matching complex syllables from a field of four complex syllables (cccvc).
8. SIMPLE AND COMPLEX MIX. The client will select matching simple and complex syllables from a field of four simple and complex syllables.

Rationale Similar to the other Match Up tasks, is also intended for clients in Rancho Level VII and above, drawing on Luria's (1973) third functional unit, planning and verification of activity. A greater degree of perceptual analysis is required. The client is required to perform a featural analysis of the stimuli, aided by familiarity and language. Again, the task demands motor persistence, sustained visual attention and scanning, response speed, visuomotor coordination and the ability to hold the information in working memory long enough to complete the response.

Alternative This game is appropriate for children learning to read, children and adults with reading and spelling difficulty, short-term memory problems, sustained and shifting attention difficulties, or central auditory processing dysfunction.



Patterns

Training Level, Level 1, Level 2

Objective The client will complete sequential patterns of increasing complexity by choosing the correct pictures.

How to Play The client will play the training level first. At this level, there is an auditory model how to “read” the pattern to encourage the client to use language to assist in the reasoning for this game. Some professionals prefer to keep this a “non-verbal” task and if this is desired, check Mute, under the Volume Menu.

The client will read the pattern aloud at first, then silently. When the client comes to the empty pink cards, she needs to figure out how the pattern should continue. Pick up the next card in the sequence and drop it on the space where it should go. When the client is finished, click on the “Check Answer” button. If all of the cards have been correctly placed in the pattern, the computer will move on to the next screen. If the patterns have been incorrectly placed, the computer will leave the correct ones in the pattern, and let you continue.

Response Options *Touch screen:* Touch the card in the bottom row that completes the pattern and drag it to the correct blank card in the sequence.

Keyboard: Type the number corresponding to the shape that belongs in the next open space on the answer line.

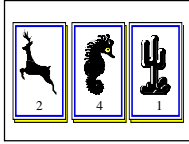
Mouse: Click on the card that corresponds to the next card in the pattern.

Options *Random*

Game Results Trial, Level, Seconds, Percent Correct.

Rationale A much more complex task than Match up, Patterns is intended for clients at the high end of Rancho Level VII and draws on Luria’s (1973) third functional unit of higher visual functions requiring perception of elements of a visual presentation, analysis of the features of the presentation including orientation to each other, and synthesis in what Luria called “intellectual operations in space.” This task draws upon the V1 and V2 areas of the occipital cortex as well as the inferior temporal cortex as well as the superior colliculus. Functions of the frontal and occipito-parietal regions are highly challenged by this task.

Alternative This game is appropriate for children learning pre-reading and math skills, children and adults with reading and spelling difficulty, short-term memory problems, or sustained and shifting attention difficulties.



Secret Decoder

Level 1, Level 2

Objective The client will match the correct picture/symbol to a number in sequential order.

How to Play The client will look at the top of the screen. There is a card with a symbol and a number. In the middle of the screen there is a card with just the symbol. The client will type in which number corresponds to that symbol by looking up to the symbol/number strip at the top of the screen.

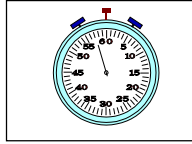
Response Options *Touch screen:* Not available.
Keyboard: Type in the correct number from the keyboard.
Mouse: Not available.

Options Random

Game Results Trial, Level, Seconds, Percent Correct.

Rationale This task is intended for clients in Rancho Levels VII and above. This is a task of psychomotor performance relatively unaffected by intellectual ability, long-term memory functioning or previous learning. It requires motor persistence, sustained visual attention and scanning, response speed, visuomotor coordination and the ability to encode the symbols (Lezak, 1985) and is designed to utilize Luria's (1973) third functional unit, planning and verification of activity.

Alternative This game is appropriate for children learning pre-reading and math skills, children and adults with reading and spelling difficulty, short-term memory problems, or sustained and shifting attention difficulties.



Stopwatch

Training, 10 Seconds, 15 Seconds

Objective The client will establish a pace and sustain attention for an interval of 10 or 15 seconds.

How to Play The client will establish a rhythm and internal pacing necessary to sustain attention using visual and auditory cues. The pace is set for five seconds, the client continues counting aloud or mentally, keeping the pace. At 10 seconds, the client hits the spacebar to stop the clock. The goal is to get as close to the 10 seconds as possible. Once the client is within .15 of a second average over ten trials for three consecutive trials, the level of difficulty can be increased to 15 seconds. The ceiling is at a ten trial average on 15 seconds, at .20 (20/100ths) over three consecutive trials.

Response Options *Touch screen:* Touch start, stop, or clear.
Keyboard: *S* = start; *spacebar* = stop; *C* = clear; *F* = finished.
Mouse: Click on the stop button or anywhere on the stage to indicate that the interval is over.

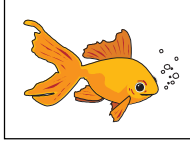
Options *None*

Game Results Trial, Level, Deviation.

Rationale This task is intended for clients in Rancho Levels VI and above and could be considered a precursor or companion task to the initial tasks of the pioneer Ben-Yishay, Piasetsky and Rattock (1987) Orientation and Remediation Module. The task requires vigilance, sustained attention, reaction time and is designed to access Luria's (1973) third functional unit, planning and verification of activity.

Alternative This game is appropriate for children and adults with Attention Deficit Disorder, Mild Traumatic Brain Injury, or Post Concussion Syndrome. The focus is to train sustained attention.

Acknowledgement Use of Stopwatch in therapy pioneered by James Loong, Ph.D., Neuropsychologist.



Catch Of The Day

Level 1-10, Large Level 1-3

Objective The client will visually scan a field from left to right and top to bottom to:

1. Discriminate numbers from lower case letters with increasing complexity of the visual field.
2. Discriminate numbers from upper case letters with increasing complexity of the visual field.

How to Play Visually scan the field and find the 3 hidden numbers. There will always be three numbers to find. The numbers are always 1-9. The goal is to get as fast as possible finding the numbers. At levels 1-8 < 10 seconds. At levels 9-10 < 20 seconds average.

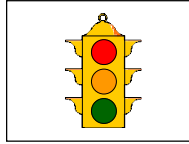
Response Options *Touch screen:* Touch on the number and a fish or oval will appear.
Keyboard: Press the corresponding number on the keyboard.
Mouse: Click the arrow on the number, a fish or oval will appear.

Levels and Options *Levels:* There are ten levels with regular size type. Even numbered levels use upper case letters, odd numbered levels use lower case letters. There are three large type levels, Large Levels 1-3.
Show numbers: Gold colored fish indicate numbers that have not been found.
Use Ovals /Use Fish: Toggle between Fish or Oval for correct response indicator.
Random: Randomizes screens within a level.

Game Results Trial, Level, Seconds, Moves.

Rationale This task is intended for clients in Rancho levels VI and above. Stimuli are randomly presented in all quadrants of the visual field requiring ongoing sustained visual attention, visual search, and discrimination, again drawing upon Luria's (1973) third functional unit, planning and verification of activity.

Alternative This game is appropriate for children and adults with Attention Deficit Disorder, Mild Traumatic Brain Injury or Post Concussion Syndrome. The focus is to train sustained attention.



Stoplight

Standard, Red and Green, Yellow Only, Words on Lights

Objective The client will sustain and alternate attention to discriminate between color and size.

How to Play Red = Stop (Use Key J or 1)
Green = Go (Use Key L or 3)
Small Yellow = Stop (Use Key J or 1) (The light is now yellow and far away, by the time you get there, it would be red, so Stop).
Big Yellow = Go (Use Key L or 3) (The light is now yellow and close, you are right underneath it, go ahead through the light.)

Begin at the training levels to learn *stop* and *go* alone (i.e. red/green only). Then practice the yellow lights alone. When finger manipulation of stop and go is satisfactory, then play the game using all elements for decision making. Move to a faster level when your Avg. % correct for 10 trials is 86% or higher. Keep playing until your score at .5 is 70% or better.

Options Training tasks: Voice on/off, Words on/ off, Red and green lights only, yellow lights only.

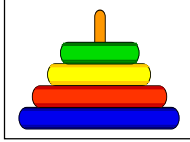
Tempo 3 sec., 2.5, 2, 1.9, 1.8, 1.7, 1.6, 1.5, 1.4, 1.3, 1.2, 1.1, 1.0, .9, .8, .7, .6, .55, .53, .515, .5 seconds per screen.

Game Results Trial, Level, Tempo, Percent Correct, Percent Error, Percent Missed.

Rationale This task is intended for clients in Rancho Level VI and above and is designed to tap Luria's (1973) third functional unit, planning and verification of activity. The task is an adaptation of Luria's (cited in Christensen, 1979) "go/no go" task and requires discrimination as well as implementation and suppression of motor plans. This involves primarily frontal lobe functions.

Alternative This game is appropriate for children and adults with Attention Deficit Disorder, Mild Traumatic Brain Injury, or Post Concussion Syndrome. The focus is to train sustained attention.

Acknowledgement Stoplight concept courtesy of James Loong, Ph.D., Neuropsychologist.



Hoops

Two Hoops, Three Hoops, Four Hoops, Five Hoops

Objective The client will utilize visual planning and reasoning skills to rebuild a stack of hoops. The client will begin with minimal complexity and increase complexity from two, three, four and five hoop stacks.

How to Play The client will move a stack of hoops from peg 1 to either peg number 2 or 3. Only one hoop can be moved at a time. Only smaller hoops can go on top of larger hoops. A finished stack has large hoops on the bottom and the smallest hoop on the top. The goal is speed and accuracy.

Minimum # of moves/average seconds for nonhead injured person using keyboard,

2 Hoops = 3 moves / 3 seconds

3 Hoops = 7 moves / 7 seconds

4 Hoops = 15 moves / 15 seconds

5 Hoops = 31 moves / 31 seconds

Response Options *Touch screen:* Touch target hoop and drag to the destination.
Keyboard: Touch 1 to pick up the top hoop from peg 1. Touch 2 to pick up the top hoop from peg 2. Touch 3 to pick up the top hoop from peg 3. Then touch 1,2, or 3 to drop the hoop on the destination peg.

Mouse: Click the mouse button and hold it down on the target hoop then drag the hoop to destination peg. Release the mouse button and the hoop will drop into place.

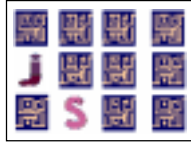
Levels and Options The game may be played with two, three, four, or five hoops

Game Results Trial, Level, Seconds, Moves, Completed.

Rationale This task is intended for clients in Rancho Level VI and above. This is a classical problem solving task with an element of planning (Anderson, 1980), clearly part of Luria's (1973) third functional unit, planning and verification of activity, and exemplifies everyday problem solving which requires classifying things in terms of function and moving flexibly back and forth between the ends, the functions required and the means that perform them. This particular form of problem solving has been termed "means-ends analysis" or "a problem reduction procedure" as it breaks a problem down into subproblems (subgoals) which have been created in the service of the goal itself. An additional facet of this task stresses short-term memory as the client must keep many subgoals and the overall goal in short term memory.

Alternative This game is appropriate for children and adults with Attention Deficit Disorder, Mild Traumatic Brain Injury, or Post Concussion Syndrome. The focus is to train sustained attention.

Acknowledgement Use of Hoops in therapy pioneered by James Loong, Ph.D., Neuropsychologist.



Match Ups!

Six Cards, Twelve Cards, Twenty-four Cards, Forty-eight Cards

Objective The client will "turn over" two cards on each turn to find matching picture/symbol pairs. The client will use verbal rehearsal to provide auditory and visual stimuli to support memory and recall of familiar picture/symbol pairs.

How to Play The clinician will assist the client in choosing one of the four levels. The client then turns over one card by clicking on it with the mouse. The client hears the object labeled, observes the picture/symbol on the card and tries to recall where they have seen a matching card. When the client clicks on their choice the card will turn over. If the cards match they will disappear from the screen after 3 seconds. If they do not match they will be turned over when the client chooses the next card or clicks on the arrow key at the bottom left corner of the screen. The client may hear the object labeled again by clicking on the picture. The client continues to uncover pictures and find matching pairs until all of the matches have been found. The client will then be given the option of choosing a skill level and playing another game. The cards will be automatically reshuffled unless the client chooses to play the same game over by clicking on the replay button.

Response Options *Touch screen:* Touch the card to turn it over.
Keyboard: Not available.
Mouse: Click on the card to turn it over.

Options *Pause on Error:* The default option is to have the game pause when two cards that do not match are turned over. If this option is turned off, the cards will be turned so that the backs are visible after three seconds.

Volume: The default option is to have the name of the picture/object spoken for the client when each card is turned over. Change the volume to "mute" to turn this option off. The word can be repeated by clicking on the exposed picture card.

Change Card Backs: Change the card backs to one of 16 choices.

Change Pictures: Change the pictures that are uncovered in the game. You may supply your own pictures if desired.

Sound On/Off: Automatic labelling when a card is turned over can be turned off by selecting "Mute" from the volume control option.

Game Results Trial, Level, Seconds, Moves, Completion Status, Averages

Rationale This task is intended for clients in Rancho Levels VII and above. This is a task of psychomotor performance relatively unaffected by intellectual ability, long-term memory functioning, or previous learning. It requires motor persistence; sustained visual attention and scanning; visuomotor coordination; and the ability to encode and recall the symbols. (Lezak 1985) It is designed to utilize Luria's (1973) third functional unit; planning and verification of activity.

Alternative This game is appropriate for individuals with auditory/visual short-term memory deficits, as well as verbal rehearsal and confrontation naming problems. This game is also appropriate for children and adults learning English as a second language.



Stimulus Field Attention Training

Training, Level 1, Level 2, and Complex

Objective The client will maintain attention and vigilance in order to discriminate between target and non-target icons in alternating quadrants of the computer screen field.

How to Play Begin at the *Training* level. A target stimulus will be presented in the center of the screen. The client will respond to the presentation of the stimulus by pressing the spacebar or clicking the mouse. After the client responds, the target will be displayed in one of the four quadrants of the screen. The client should respond once to the stimulus and wait for the stimulus to return to the center. The client will again respond and continue to respond each time there is one target on the screen. Once they have attained an 85% correct response rate for three consecutive trials, use the *Tempo* option button to reduce the length of time the stimulus is displayed. Play again until the client once more attains an 85% success rate. Move to *Level 1* when the client is successful at a stimulus display time of .7 seconds. (Some clients may be able to respond accurately at .5 seconds.) For *Levels 1, 2 and Complex*, two stimuli will be displayed. The client will respond to the presentation of two matching stimuli by pressing the spacebar or clicking the mouse. In *Level 1*, play using the default tempo until the client has attained an 85% correct response rate for three consecutive trials, then use the *Tempo* option button to decrease the length of the interval between stimulus displays. When the client is successful at the .7 second interval, move on to *Level 2*. *Level 2* starts with an interval of 3 seconds and a stimulus display time of .7 seconds. The objective is to increase the interval (when nothing occurs) to 15 seconds. Some clients may have difficulty with the default interval. For these clients, pick a short interval and move to longer intervals when the client can tolerate the interval and is not making extra hits or exhibiting inattentive behavior. When the client has successfully completed *Levels 1 and 2* move to the *Complex* level. In this level, neither the stimulus nor the interval are fixed in length. They vary within the tempo and interval parameters that are chosen by the clinician in the menubar. The default tempo is 5 seconds and the default interval is also 5 seconds. Adjust the tempo and interval to allow your client to practice controlling impulsivity and waiting patiently. Continue playing until they have mastered these skills. Once the basic exercise is mastered, the background, target, and distractor can be chosen to add difficulty to the exercise and train specific attention deficits.

Options *Target and Distractor* - Choose a target and a distractor from 16 sets with four objects
Background - Choose from 16 backgrounds
Respond and Inhibit Percentages - Choose the percentage of screens where the client should respond to the stimulus and the percentage where the client should inhibit their response.
Stimulus Presentations - Choose 20 or 50
Stimuli Reminders - Turn on/off the visual and spoken prompt at the start of each trial. (Clicking the mouse stops the voice prompt.)

Scoring There are four possible responses from the client: 1. The client responds while the stimulus is displayed—the response will be scored as "Correct". 2. The client responds to the distractor—the response will be scored as "Error". 3. The client fails to respond when appropriate—the response will be scored as "Missed". 4. The client responds more than one time to the stimulus or while there is no stimulus on the screen—each additional response will be scored as "Extra". The computer also measures the average response time when the target is at the center of the screen. Impulsive extra clicks may be interpreted by the computer as an appropriate response at the center. If this happens the response time at center will be understated.

Response Options	<p><i>Touch screen:</i> Touch the screen when the stimulus is displayed.</p> <p><i>Keyboard:</i> Press the Spacebar when the stimulus is displayed.</p> <p><i>Mouse:</i> Click on the screen when the stimulus is displayed.</p>
Game Results	Trial; Level; Tempo; Interval; Response Required Percentage; Number of Stimulus Presentations; % Correct; Omission Errors - %Missed; Impulsivity Errors - %Error; Number of Extra Hits; Average Reaction Time at the Center (seconds).
Rationale	This task is intended for clients in Rancho Level VII and above. This is a task of psychomotor performance relatively unaffected by intellectual ability, long-term memory functioning, or previous “old” learning. It requires motor persistence, inhibitory ability, sustained visual attention, vigilance, and attention to all quadrants of the stimuli field. At the most complex level it is designed to invoke Luria's (1973) third functional unit; planning and verification of activity.
Alternative	This game is appropriate for children and adults with Attention Deficit Disorder, Mild Traumatic Brain Injury, or Post-Concussion Syndrome. The focus is to train attention and vigilance.

General: If the client is impulsive, the percentage of screens with a target and a distractor may be increased to practice inhibiting a response. If the client is easily distracted by visual stimuli, a more complex background may be selected. If the client has difficulty with changes, the type of target and distractor can be frequently changed.

Impulsivity: If a client is impulsive you will see many Extra hits and %Error will be high. (You cannot make errors in the *Training* level.) When the objective is to reduce impulsivity you must look at the type of impulsive errors. If the impulsivity is exhibited by Extra hits, reduce the tempo and interval. This will help them to control clicking when there is no stimuli on the screen. It is important to find a level where the client can be responding at the 85% correct rate with few extra hits. Gradually lengthen the interval and tempo. As the client shows a consistent 85% success rate, increase the tempo and interval. If the impulsivity is exhibited by high percent error, increase the tempo and instruct the client to carefully view the stimuli *before* clicking. Give them a longer time to make a thoughtful, correct response. You do not want to encourage impulsive error responses. Don't allow a client to practice below 85% correct levels. In order to get consistent, accurate responses you may need to adjust the tempo so they have enough time to respond accurately but not too much time to drift off.

Inattention: One of the most difficult activities for someone with attention problems is waiting while *nothing is happening*. The complex level can be used to vary the waiting time. Many ADD individuals fly through the *Training* level, *Level 1*, and *Level 2* when the interval time is less than 3 seconds. When the waiting time is variable, as in the *Complex* level, or set at very long periods (15 or 30 seconds) they fall well below an 85% success rate. Extra hits, increased response time at center, and fidgety behaviors are typical. Gradually work up to longer periods and discuss strategies for attention with the client. Verbal redirection and prompts will help teach focusing strategies. “Tell yourself, ‘Stay with it.’” or “Count in your head how many seconds between hits.”

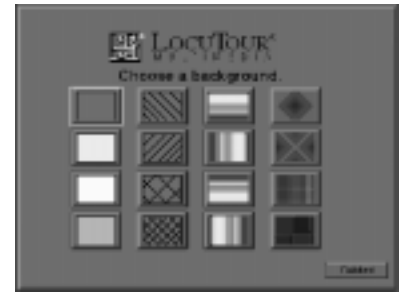
Motor Response Delay: Some clients will not be physically capable of responding in .7 seconds to the stimulus. If a client has problems with motor control, the Tempo and Interval can be adjusted to allow adequate time for a response. Some clients may find that they respond quicker with the mouse than with the spacebar, since it requires less movement.



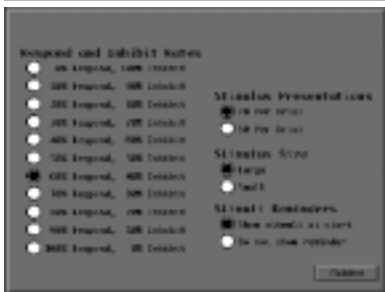
Options: Choose a target. (You will hit the spacebar when you see the target.)



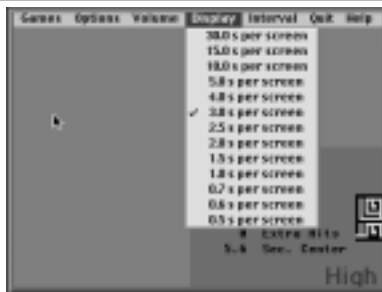
Options: Choose a distractor. (You will ignore/do nothing when you see the distractor.)



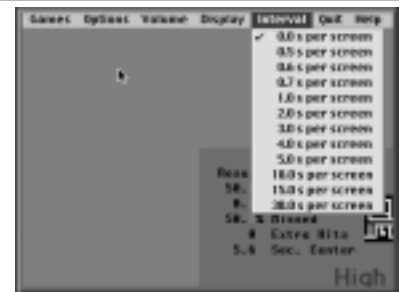
Options: Choose a background. (Make the game harder with a complex background.)



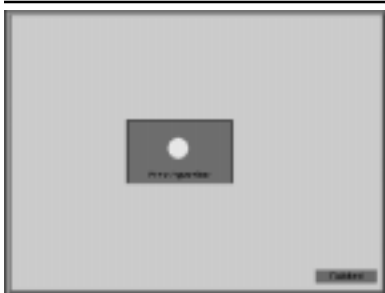
More Options: Control the Respond and Inhibit rates, Stimulus Presentation, Size, or Reminders.



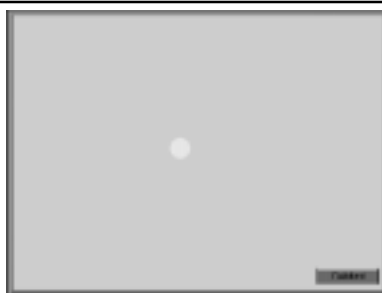
Display Rates: Choose how long the target stays on the screen.



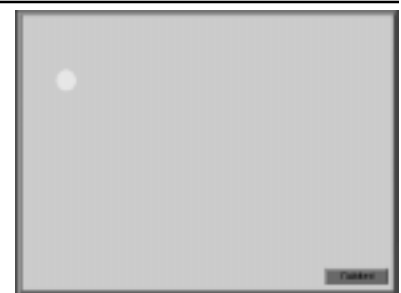
Interval Rates: Choose how much time between targets. A longer time = a longer wait.



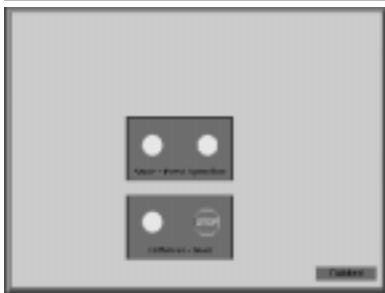
Training Level: Press the spacebar to start the game.



The center target will appear. Press the spacebar as soon as you see it. This is the “reaction time on center.”



The target will then appear in one of the four quadrants. When you hit the target in a quadrant you will hear a “correct beep.”



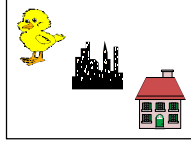
Level 1: Choose targets and distractors before starting game, or use defaults.



Hit spacebar for center targets. There will be no “beep”. You will hear a “correct beep” on two targets in a quadrant.



Ignore/do nothing when you see the target and distractor. If you hit the spacebar, you will hear an “error beep”.



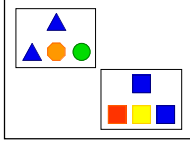
Auditory Memory and Attention Games

And The Little Duck Says Quack, Quack

In the City

Around the House

Objective	The client will match an auditory stimulus to a visual stimulus with increasing complexity of visual field.
How to Play	Listen to the sound. It will play for a short time, then stop. Match the sound to the picture of the item that makes that sound. Pressing <i>R</i> or clicking the Repeat button will replay the sound.
Response Options	<i>Touch screen:</i> Touch the picture of the item that is making the sound. <i>Keyboard:</i> Not available. <i>Mouse:</i> Click on the picture of the item that is making the sound.
Levels and Options	The options are the same as in the Attention Module: <i>Random, Show Matches, Pause on Error.</i>
Tempos	The length of time that the sound plays can be controlled from the tempo menu option. Tempo times are Fade Very Fast, (about .5 seconds), Fade Fast, Fade Regular, Fade Slow, and Fade Very Slow (about 8 seconds).
Screens	Farm and Nature scenes and sounds; City and Office scenes and sounds; and In and Out of the house scenes and sounds.
Game Results	Trial, Level, Seconds, Percent Correct.
Rationale	This task is intended for clients in Rancho Levels VI and above. The task requires the client to perform discriminations, access remote memory and make cross-modal matchings. Although focusing on Luria's (1973) second functional unit, receiving, analyzing and storing information, the increasing complexity of the stimulus field introduces elements of Parente's (1985) Stage VII Interference Resistance Training.
Alternative	This game is appropriate for hearing impaired individuals involved in an auditory habilitation or auditory rehabilitation program. This game is also recommended for young children learning language and children with central auditory processing dysfunction.



Visual Memory and Attention Games

Match Up Shapes, Match Up Letters, Match Up Words

Objective The client will recall a visual stimuli of increasing complexity.

How to Play The client will hear and/or see a stimulus at the top of the screen. Notice the details of the stimulus. The stimulus will appear for a pre-determined amount of time then disappear. (The clinician will choose a tempo appropriate for each client.) The client will try to match the stimulus and choose the answer from the bottom row of possible answers. If necessary, the client may choose the “R” or *Repeat* button to re-play the stimulus

Response Options Touch screen: Touch the shape to indicate response.
Keyboard: Press 1, 2, 3, 4, 5 to indicate response.
Mouse: Click on shape to indicate response.

Options *Random*: “On” plays randomly within the level and does not randomize between levels. For example, Random Level 1 could have two, three or four choices in the field. “Off” plays all games in an ascending field. For example, all the screens with two pictures will play first, then all the three, etc. until there are sixteen pictures in the field to choose from.

Show Matches: When this option is “Off” the clinician can measure how many correct answers were made without assistance from the computer. This may be helpful in pre, interim, and post testing.

Pause on Error: When this option is “Off” the clinician can move from one screen to the next without pausing to handle errors. This is only recommended for pre, interim, and post testing. The default is “On.” The pause allows the client time to evaluate erred responses and learn to correct the error.

Game Results Trial, Level, Seconds, Percent Correct.

Rationale See individual games.

Alternative This game is appropriate for young children just learning to read or other readers that are working to improve their speed of single word decoding or shape recognition.

Chapter 4

*Tips
and
Tricks*

Therapy Tips and Tricks

How do I get instructions for the game? There is an on screen help “?” button with verbal instructions in the language of your choice. Type the letter *Q* or the question mark ? to hear the instructions. There is a written help screen under the menu item *Help*.

How do I control the volume? Can I ever just turn the sound off completely? The volume can be controlled for all the games by choosing an appropriate level under the main menu *Volume*. *Mute*, turns the sound off completely. If you ever happen to exit the CD and the volume is not on, open the Apple Control Panel and select “Sound.”

Under the *Quit* menu, what does *Return to Games Menu* mean? *Return to Games Menu* allows you to quit the game you are working on and return to other games in the modules.

What does *Quit Everything* mean? *Quit everything* means you can leave the attention and memory CD and return to the hard drive.

Results

How will the scores be recorded and reported? Scores will be reported after ten trials, or if the client quits the game before the ten trials.

How do I keep track of different client's scores?

You will need to print the results page at the end of each game before moving on to the next screen.

Working with Options

How do I work with a client that doesn't speak English?

The *Languages* section of the main menu lets you choose the language of the main menu , and the language of the game help screens. You can keep the menu at the top of the screen in English, and let your client use a menu that is in their native language.

Note that the scores will be shown in the language that is used in the game.

Some of the options under the Options menu are gray. Why can't I use them?

The *Options* selection is used in some games to control the way the game is played. When that option is available, the menu bar will show the option in black.

Menu Selections

In the Left Ear, Right Ear, Hello, Tempo Please, Loud and Quiet, High and Low and The Little Duck Says, On and On games, when do I use Show Answer? Show Answer is used when the client does not know the correct answer and wants to see the correct response. At this time, it is good to problem solve why this is the correct answer and the other choices are not as good for answers.

In Left Ear, Right Ear game when do I use "Show Which Ear"? Use *Show Which Ear* when the client is unable to identify in which ear she heard the sound. The correct ear is highlighted in white. The incorrect ear is highlighted in gray. Be certain that the headphones are on the correct ears and that the volume does not exceed 85 dB.

When do I use Check Answer? *Check Answer* is clicked after the client is sure that the responses they have made are the correct responses. *Check Answer* functions as the "teacher" in that correct answers will be counted as correct and incorrect answers will be erased and the client asked to start over.

In the *Stoplight and StopWatch* games, the prompt *Click Here or Press Space Bar to Start* and *Click Here or Press Space Bar* to play again are used to allow the client to get a mental readiness to begin the game. There needs to be a conscious decision on his part to pay attention and begin the game. The game starts immediately after the client clicks on the button or presses the space bar.

What if I want to help my client problem solve and learn to correct answers? If you want to help the client learn to correct answers check the "Pause on Error" prompt under the *Options* menu. After an incorrect response, the game will not proceed unless the client or clinician clicks on *Continue*. This allows an individualized amount of problem solving time.

If I do not check the Pause on Error option, can I use the results of the ten trials as a test? Yes, the correct and incorrect responses will be counted without giving the client any opportunity to change the answer. This will give you pre and post test scores. If you select "Random Off" you will always be testing the same first 10 or 20 items. If you put "Random On" you will be assessing a generalization of the task. You will not be assessing the exact same 10 or 20 items each time.

Does the client get credit for a correct response when they click on Show Matches? No, the show matches counts as one error regardless of the number of requests on that item.

The *Repeat* button allows the client to practice that exact same screen again, after an error or to repeat a sound.

Why would I want to control the tempo? Tempo is a useful option for training. In the beginning a client may only be able to score in the 80th percentiles if the tempo is slow or very slow. As attention improves, the speed of information processing becomes more important but accuracy remains a critical aspect of performance. The goal is to have the client become both accurate and fast! Eighty percent accuracy is considered good. Below eighty percent, there is too much frustration and not enough conscious decision making being done. We suggest you manipulate the tempo to allow your client to be successful at the eightieth percentile. Then raise the tempo gradually as accuracy improves.

Macintosh Tips and Tricks

CD Won't Load

- I inserted the CD and got a message saying that the CD contained files that are locked.

This message shows up if the Macintosh is running system 6 as its operating system. This CD requires System 7.

- The CD is in the tray but there is no icon for it on the screen.

This CD was created as an exact file image of a folder on a Macintosh. To get the Macintosh to recognize the CD you must have the file, "Apple CD-ROM" (or the CD-ROM extension that came with your Mac clone) in the extensions folder. This file is located on your original system 7 disks or on the disk that came with a CD-ROM upgrade kit.

The cables for an external CD-ROM drive may not be connected tightly on the CD-ROM. Or the CD-ROM was not turned on before the Mac was turned on. Restart the Mac after checking the power and cables.

Or the CD-ROM may have the same SCSI device number as another device. Change one of the numbers and restart the computer.

- The CD won't eject from the machine when I put it in the trash.

First close the CD application by clicking on the "Finished" button until the credits roll by or choose "Quit Everything." from the menu bar at the top of the screen. If the CD still won't eject then you must turn the *Chooser* off, eject the CD, then turn the *Chooser* back on.

Alert Messages

- I get a message that says:
"There may not be enough memory to run this game. If an error occurs, try closing other applications before loading the CD."

Several games have been licensed from others. They require a bit more memory to run so if you have 8 Megabytes of RAM and are running other applications, such as the Launcher, you may not have enough memory to run these programs. Try closing these applications before running the CD.

- I sometimes get a message that says, "Script Error" and two buttons, one saying **Script** and one saying **Cancel**

We tested the CD extensively, but it is possible that an error slipped through. Click on cancel and the program should continue.

- I sometimes have no sound when playing some of the games.

First check that all the lines to external speakers are connected and that one of your clients hasn't turned the sound off. If you have been playing music CDs on your machine you may need to change the setting for "Input Source" in the Sound control panel from "Internal CD" to "Microphone". Check the volume by using the *Volume* menu option at the top of the screen. If that doesn't work then you may not have enough RAM. The CD will run with less than 8 Meg but sometimes won't have enough memory to play the sounds. Check to see if other applications are running and turn them off.

- I have visually impaired clients, how can I make the screen larger.

If you have a 13 or 14 inch monitor, the screen will be filled by the CD. If you have a larger monitor, set the resolution to 640 x 480 using the "Monitors" control panel. You can get a very large picture with a 17 inch monitor and prices have fallen below \$1,000.

- I got a "bomb" and the message, "Application unknown has unexpectedly quit."

Sometime the Mac gets confused about what it is supposed to do. When that happens, it just quits. If this happens frequently, you should rebuild your desktop as described in the "Getting Started" manual. If the problem persists, try reloading the Macintosh system software.

- I click on the screen, but nothing happens.

Some games require that the entire sound play before allowing a response, wait until the sound has played, then click on the screen.

Windows® Tips and Tricks

PCs have dropped dramatically in price because of stiff competition and new innovations. Because there are so many different kinds of PCs each with different sound cards, video drivers, and printers there are problems with compatibility. Some of the problems we know about are listed below.

- Virtual Memory

The CD requires 4MB of free RAM and on most machines this means that at least 8 MB of "real" RAM are required. You can make more memory available to your programs by using memory on the hard drive. Consult your Windows manuals to determine how to optimize virtual memory for your machine.

- I get a warning message "This program requires Microsoft Windows" when I try to run the program.

This message occurs when you try to run the program from the C: or A: prompt. The program must be run under Windows. Use the "File Run" command in the Program Manager or use the File Manager to run the program.

- General Protection Fault Errors or the machine "Locks Up".

Windows sometimes gets confused about which program has access to which parts of memory. When this happens you get a General Protection Fault Error(GPF) or the machine just stops working. If these errors occur infrequently, just reboot and continue. It is just about impossible to figure out why infrequent GPFs occur. If it happens consistently then try one of the tricks listed below.

- GPF Error Code says that error is in GDI.EXE, USER.EXE, or one that ends in .DRV.

Generally, this refers to the video driver that is used by the computer to display graphics. LocuTour CDs are graphics intensive and use all of the capabilities of the display drivers. To determine whether the video card is the problem, exit Windows and use the program *SETUP.EXE* (located in the sub-directory Windows) to change the display driver to VGA. Get back into Windows and run the CD or disk again. Try to replicate the steps that you did just before the GPF error occurred. If you can't get it to cause an error then you probably need to install new video drivers. Contact the maker of your video board or download them from their BBS or an on-line service. If that doesn't work try removing screen savers and other Terminate and Stay Resident (TSR) programs. If that doesn't work, try deleting the Windows directory and

reinstalling Windows from your back-up copy.

- **Menus stop working**

The menus at the top of the screen may stop working after you play 20-30 games. The games will run fine, but if you need to use the menu options you will need to restart the CD. We will send you an updated CD when this problem is fixed.

- **Sound is choppy or won't play.**

First check that all the lines to external speakers are connected and that one of your clients hasn't turned the sound off. If you have been playing music CDs on your machine you may need to change the setting for input source. Check to see that the volume level is not set to "Mute" on the CD by using the *Volume* menu option at the top of the screen. The CD needs at least 4MB of free RAM to run. If other applications are running, including screen savers and virus checkers, there may be enough memory to run but not enough for sound. Try closing other applications and restart Windows. The sounds play at 16bits and 22.050 kHz. Check you sound card specifications to be sure it supports this quality level. If these steps don't work then you need to check the configuration options in the autoexec.bat and config.sys file. Check the manual for your sound card for details.

Appendix

Setting the Climate for Learning *An Introduction for using the Computer for Therapy.*

- *How Does a Computer Work?*

The computer has many chips, circuit boards and wires that store and transmit information. In order for the computer to respond to your intentions, it needs to receive information from you. The information can be put into the computer with a keyboard, a mouse, a touch screen, or even a video camera.

The information going in is called, *input*. The input goes to the central processor in the computer where it is acted upon.

The job of the central processor is to organize and store information. This is called *processing information*. Once the information is processed it may be stored on an internal drive, displayed on the screen, or played on the speakers.

You can see your information on the screen, hear sounds from the speaker, or print your information. This is called, *output*.

There are many steps that both you and the computer must do exactly right in order to get the intended result or output. If you miss one of the steps, or if a part of the computer is broken, only part of the information gets to be stored inside the computer or displayed on the screen.

Does that make the computer stupid? No! If all of the input devices are not working properly, it may not have received all of the information. If the processor is broken, it may not have processed the information correctly. If the output devices are faulty, it may have trouble displaying the results of the processes it has completed.

If there is a problem in one or more of the three areas, *input, processing, or output*, you may have trouble getting information into the computer, processing that information, or getting the information back out of the computer.

- *How Do I Store Information In My Brain?*

Our brains work in a very similar way. Our “*input system*” is much more complicated than the computer’s keyboard, touch screen or video system. The way information comes into our “*system*” is through our senses. We see, hear, taste, smell and feel information around us. Computers can’t do that! But, if our processor, the brain, has difficulty sending information back and forth between information areas, some of the information might go to the wrong place, or get lost!

That’s what happens when we forget things or have trouble learning new information. Sometimes brains take in the information correctly, process it just fine, but have trouble with “*output*.” It can be hard to say or perform what we know! The information is in

the brain, but we have trouble getting it out! It can be frustrating to know that you know something, but can't tell anyone what it is that you know! It can be frustrating to not understand, and it can be frustrating to forget!

Just because we forget something, or don't put the information into a place in the brain where we can find it again, *doesn't make us stupid!*

Organizing the brain information doesn't have anything to do with whether you are "smart" or "dumb" or "intelligent" or "slow." It has everything to do with how you organize your brain!

Some brains need more instruction about how to organize. That doesn't make us any less "smart." Just like each computer is different, each brain is different. We all have basically the same potential to store information, but some people store it more efficiently than others. And because they store it more efficiently, they can find the information faster.

Suppose I told you to go get your baseball glove. If you don't know exactly where it is, you would have to "search" all the possible places that you could have left your glove. You might search your closet, or under your bed, or in the garage.

Eventually you'll find it because you know "It is here somewhere!" But, if you always put your baseball glove in the baseball bin in the garage, next to the bat and ball, when I ask you to go get your glove, you can go right to it and bring it back.

Let's do some thinking about this. If you don't know where your glove is, does that make you any less "smart?" No! Just less organized.

Can you get more organized inside your brain? Yes! Can it be fun too? Yes! Is it a lot of work? Yes! If you want to make thinking, remembering and concentrating easier for yourself you have to work at it.

- *How Can A Computer Help Me Learn?*

The computer and computer programs are tools you can use to help your brain learn information. We are all familiar with using tools. If I want to get a nail into a wall, I use a hammer. If I want to organize my papers, I put them in a filing cabinet. If I want to get a splinter out, I use tweezers. There are specific tools for every job that I need to do. I don't use a hammer to remove a splinter.

The LocuTour Multimedia CD *Attention and Memory Volume I* was designed to be a tool to help children and adults to organize their brains. Each brain is different and has different ways of organizing information. This CD was designed to allow the individual to practice information *input, processing, and output* at their own skill and challenge level. Finally, a tool for cognitive training that is specifically designed to address the problems of attention and memory at various skill levels!

Let's Talk About Labeling.

I have used the words, “stupid,” “dumb,” “slow,” “intelligent,” and “smart.” Those are labels. Now let’s think about labels.

We use labels so we can talk to one another and have some common understanding about what we are saying. If I want to talk about the “thing that we write with that has ink inside,” I call it a “pen.” If I called it an “eep” you wouldn’t know what I was talking about. In this way, labels are helpful. I can say, “Hand me a pen,” and I receive an instrument for writing. I also don’t have to say a lot of words to get the pen. If we didn’t have labels, I would have to say each time, “Hand me the thing that we write with that has ink inside.” But, let’s say I said, “Hand me the eep.” Just because I called it an “eep” does it make it an “eep?” No, it’s still “the thing that we write with that has ink inside.”

Let’s apply this idea some more. If I call you a “chair,” do you become a “chair?” No! If I call you a “hat,” do you become a “hat?” No! If I call you a “banana,” do you become a “banana?” No! If I call you a “stupid,” do you become a “stupid?” No! You are still the person you always were no matter what I call you. I can’t change what you are just because I label you. You don’t become a chair, a hat, a banana, or stupid, just because someone calls you that name.

Now what happens if you start to call yourself, “stupid.” Will you become, “stupid?” Maybe. It doesn’t matter what other people call us. ***But it matters a whole lot what we call ourselves.*** We are what we think we are. If we think we are “great,” then we are “great!” If we think we are “quick,” then we are “quick.” If we think we are “good thinkers,” we are “good thinkers.” But, if we think we are “slow thinkers” or “stupid” we can act like “slow thinkers” or become “stupid.” No one can tell ***you*** how to think, only ***you*** can tell yourself who you are and what to think.

If you have been calling yourself names, now is the time to stop! You don’t have to feel bad that you did it before, you just didn’t realize that it wasn’t helping you. Other people taught you how to label pens and pencils and tables; other people might have taught you how to label yourself. If you have a label that you don’t like, just don’t call yourself that name. ***You are what you think you are.***

Now, if you won’t use the word “stupid” anymore, neither will I! We are good thinkers. We keep trying. We organize ourselves. We persevere. We pay attention. We learn quickly.

These are not labels. ***These are things we can do!*** We can *learn*. We can *sit still*. We can *surprise everyone around us!* When you are ready to take the responsibility of helping your brain learn to organize, you will be able to organize your brain. It’s not easy, and some days it may be harder than others, but ***you can do it.***

You are in charge! I can’t make your brain learn to organize. Your teacher can’t. Your Mom and Dad can’t. Your dog can’t! Only you can teach *your* brain how to sort information, organize it and get it back out again.

I'm here to guide you. I'll help you figure out what you need to do next and when you get to finish playing a certain game. Your job is to keep working even though it is a challenge for you! Just stick to it! Keep going. You're doing this for *you*. You're not doing it to please me, or your Mom or Dad, or anyone else. It's *your* brain! It's *your* choice! Let's get started!

Attention and Memory: Volume I Organized by Therapeutic Focus

Vocabulary Focus

Sights and Sounds
ABC 123
Vocabulary Warm-Up
Photo Detail
Cut Ups
And a 123

Reading and Spelling Focus

Match Up Shapes
Match Up Letters
Match Up Words
Secret Decoder
Patterns
Cut Ups
And a 123
Match Ups!

Visual Perceptual Focus

Match Up Color
Match Up Shapes
Match Up Letters
Match Up Words
Secret Decoder
Patterns
Cut Ups
Catch of the Day
Match Ups!

Attention Training Focus

**High Level Cognitive Rehabilitation, Mild TBI,
Attention Deficit Disorder**
Catch of the Day
Stopwatch
Stoplight
Hoops
Stimulus Field Attention Training
Match Ups!

Auditory Attention and Memory Focus

Auditory Memory and Attention Games
Hello
Around the House
In the City
Little Duck Says Quack, Quack, Quack
Left Ear? Right Ear?
Tempo Please
High? Low? Here We Go

It Goes On and On
I've Got Rhythm
Cut Ups
And a 123
Match Up Words
Match Up Letters
Match Ups!

Visual Attention and Memory Focus

Visual Memory and Attention Module
Match Up Color
Match Up Shapes
Match Up Letters
Match Up Words
It Goes On and On
Secret Decoder
Patterns
Cut Ups
Match Ups!

Problem Solving and Reasoning Focus

Match Ups!
Hoops
Stoplight
Secret Decoder
Patterns

Severe Traumatic Brain Injury Rehabilitation Focus

Sights and Sounds Around Me
Meteor
Hello
Left Ear? Right Ear?
Tempo Please
Loud or Quiet?
High? Low? Here We Go!
Little Duck Says Quack, Quack, Quack
In the City
Around the House
It Goes On and On
I've Got Rhythm
ABC 1 2 3
Vocabulary Warm Up
Photo Detail
Catch of the Day
Visual Memory and Attention Games
Auditory Memory and Attention Games
Match Ups!

Rancho Los Amigos Hospital
Division of Neurological Sciences
Head Trauma Services

Levels of Cognitive Functions

- Level I - No Response
- Level II - Generalized Response
- Level III - Localized Response
- Level IV - Confused-Agitated
- Level V - Confused, Inappropriate Non-Agitated
- Level VI - Confused- Appropriate
- Level VII - Automatic-Appropriate
- Level VIII - Purposeful and Appropriate

Original scale co-authored by Chris Hagen, PhD., Danese Malkmus, M.A., Patricia Durham, M.A. Communication Disorders Service, Rancho Los Amigos Hospital, 1972. Revised 11/14/74 by Danese Malkmus, M.A. and Kathryn Stenderup, O.T.R.

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