

The Memory Club Game Manual

By The WPI Memory Team

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Table of Contents

Filters Criteria Chart	2
Scaled Item Criteria Chart	3
Scaled Item Rubric	4
Pairwise Comparison Chart	5
Ranking Sheet	6
Games Played in the Memory Club	7
Concentration (Matching)	7
Lotto (Bingo)	9
Dominoes (Straight Dominoes)	12
Broken Telephone (Pchacac Heraxos)	14
Checkers (Draughts)	16
Zelena	19
Halamola (Hide and Seek)	21
Jigsaw Puzzles	23
Games Not Played in the Memory Club	25
Hot and Cold (Tag Saruh)	25
Backgammon	27
Word Wall	30
Word Search	32
List Twists	34
Durak	37
Memory Club Syllabus	40

Filters Criteria Chart

Filters are used after a list of potential games is created. Each game must pass all the filters in order to be ranked by the scaled items. The description for each filter is provided in the table below.

Filters	Description
General Availability	General availability means the game can be bought, found in the local area, or easily made by hand.
Time	There has to be enough time in the program to play the game. A typical game portion lasts approximately one hour. A game cannot take longer than one hour to play a single round.
Cost	A game should not be expensive. The budget of the Memory Club will determine which activities are too expensive.
Feasibility	Feasibility considers the space and materials needed to play the game. For example, if the host facility does not have enough space to arrange chairs in a circle, Zelenia would not be included in the program.
Difficulty	The game cannot be too challenging or the participants will not be able to play it. Games with complex rules should be excluded from the program.
Physicality	The participants have to be able to play the game. Games that require strenuous physical activity should be modified to fit the needs of the participants or excluded from the program.

Scaled Items Criteria Chart

This chart briefly describes each of the scaled items and their overall purpose. These scaled items predict the success of each game.

Scaled Item	Description
Familiarity	The game must be familiar to the participants of the program. Familiarity is an important criterion because it will help reduce the participants' anxiety. The games will have to be from between 1940 and 1970 because that's when the participants were children.
Enjoyability	The second criterion is enjoyability. Simply put, the game must be fun to play. If a game is dull, the participants may grow bored and won't experience the positive effects that the games have.
The Participants' Impairments	The third criterion is the participants' impairments. Participants with impairments in vision, hearing, or who have limited fine motor skills should be able to play the game. For example, the game should not have a small print or small pieces.
Social Interaction	Games that strengthen social interaction have the ability to form connections within The Memory Club. If the participants leave the program knowing they have made a friend, the possibility of creating connections and keeping the participants returning is much greater.

Scaled Items Rubric

Not all of the scaled items carry the same importance. A pairwise comparison chart (seen on page 5) was utilized to determine the weights. Social interaction was determined to be the highest priority and received the highest weight. Games that offer higher social interaction should be considered first for the program.

Each of the scaled items could receive a score of 0, 1, 2, or 3. Any game can be ranked using this rubric. After the score is given it should be multiplied by the weights to receive a final weighted score.

Trait	Weight	Possible Scoring	Rubric for Each Score
Familiarity	0.5	0, 1, 2, or 3	3: The game is recognized by all the participants. 2: The game is recognized by most of the participants. 1: The game is recognized by some of the participants. 0: The game is recognized by none of the participants.
Enjoyability	2	0, 1, 2, or 3	3: The game is enjoyed by all participants. 2: The game is enjoyed by most participants. 1: The game is only enjoyed by some participants. 0: The game is not enjoyed by any participants.
The Participants' Impairments	0.5	0, 1, 2, or 3	The impairments are dexterity, auditory processing, and visual processing. 3: The game considers all three impairments. 2: The game considers two of the impairments. 1: The game only considers one of the impairments. 0: The game considers none of the impairments.
Social Interaction	3	0, 1, 2, or 3	3: The game is played as a whole group. 2: The game is played on a team. 1: The game is played with other people. 0: The game is played on their own.

Pairwise Comparison Chart

A pairwise comparison chart was used to calculate the weights for each of the scaled items.

	Familiarity	Enjoyability	The Participants' Impairments	Social Interaction
Familiarity	-	1	$\frac{1}{2}$	1
Enjoyability	0	-	0	1
The Participants' Impairments	$\frac{1}{2}$	1	-	1
Social Interaction	0	0	0	-
Total	0.5	2	0.5	3


Ranking Sheet

In the table below are the total scores of each of the games seen in the Game Manual. Games listed in green were play-tested in the Memory Club. Games in red were scored but not play-tested.

Game:	Familiarity (.5)	Enjoyability (2)	Impairments (.5)	Social Interaction (3)	Total:
Memory Games					
Concentration	1	2	2	1	8.5
Lists Twists	0	2	2	0	5
Strategic Games					
Durak	3	3	2	1	11.5
Checkers	3	3	2	1	11.5
Backgammon	1	3	2	1	10.5
Dominoes	3	3	2	2	14.5
Jigsaw Puzzles	3	3	2	0	8.5
Word Games					
Pchacac Heraxos	3	3	2	3	17.5
Word Wall	0	0	3	0	1.5
Word Search	3	3	2	0	8.5
Games of Luck					
Lotto	3	3	2	3	17.5
Physical Games					
Halamola	2	2	2	2	12
Zelena	2	3	2	3	17
Tag Saruh	2	0	3	3	11.5


Games Played in the Memory Club

All of the games in this section of the book were tested in the Memory Club pilot program in Vanadzor, Armenia between March 13th and April 22nd, 2019.

Game	Concentration (Matching)
Description	Concentration is a memory matching game where the participant must use short term memory to match cards from a given pool. This game typically uses a deck of standard playing cards. The participant's goal is to match the number and color of the two cards. The suit of the card is disregarded. The difficulty of the game can be increased by adding more pairs. The team recommends starting with a 4x4 grid, with 8 total pairs. The game is played with two or more people.
Photos	 <p>Figure 1: Concentration Setup</p>
Instructions and Rules	<ol style="list-style-type: none"> 1. Select sixteen cards from a standard deck. In these sixteen cards must be eight pairs which match in color and number. For example, the two of Diamonds and the two of Hearts. 2. Arrange the cards in a 4x4 grid face down. Make sure the cards are shuffled (Figure 1: Concentration Setup). 3. Choose a player to go first. 4. The first player to go turns over a card and tries to locate its match within the grid by turning over a second card. If a match is found on the first attempt, the player keeps the cards. If a match is not found, the cards must be turned back over and placed into their original positions. 5. The next player repeats the same action as player one and uses the information from the previous turn to find a match within the grid. 6. The game goes until all matches have been found. 7. The winner is the player with the most matches.
Material Rec. and Amounts	<ul style="list-style-type: none"> - The team observed that some participants struggled with picking up the cards, and needed to slide them off the table. In the future, the team

	<p>recommends using small wooden blocks, or a matching game with thicker cards, so that the participants can easily grasp them.</p> <ul style="list-style-type: none"> - The team recommends the game be played in pairs. If there are budget or material constraints, the game can easily work with three participants.
Cognitive Function	Concentration strengthens short term memory, by first making decisions then planning and recalling by association. By holding memories and recalling them, this helps improve strategic decision making. ¹ Every time someone learns new facts, they run them through memory to recall and strengthen previous connections. ²
Cognitive Difficulty	Concentration is an intensive memory game. The team observed that the game was not enjoyable because it was too difficult for the participants and caused frustration. In addition, the game was unfamiliar. The areas of the brain concentration works are the hippocampus and frontal lobe. If a participant has already experienced significant impaired cognitive function due to memory loss, they may not enjoy concentration and find it extremely challenging. ³

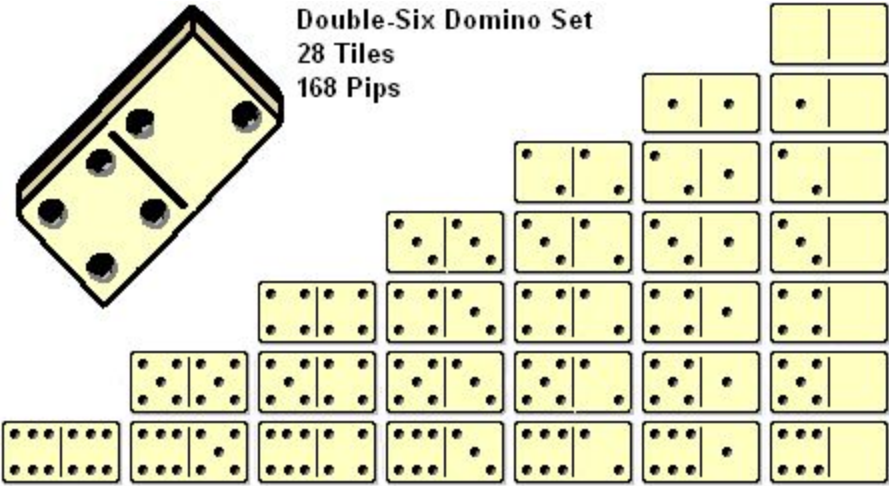
Trait	Score	Why?
Familiarity	1	Only 26% of participants said they remembered this game when it was played in The Memory Club.
Enjoyability	2	This game scored a two because most of the participants said they enjoyed the game on the survey, but not all of them.
The Participants' Impairments	2	<p>Dexterity: Our version used playing cards which could pose issues for some participants. The game can be altered to use blocks in order to get this point back.</p> <p>Auditory: The game isn't reliant on communication.</p> <p>Visual: The format of the game uses classic playing cards, which are easily legible.</p>
Social Interaction	1	This game is played against other people.

Game	Lotto (Bingo)
Description	<p>Russian Lotto, or Lotto, is very similar to Bingo. Lotto has the ability to entertain a large group of people. Each player receives a playing board, with a random assortment of 16 numbers, ranging from 1-99. These numbers are usually placed on a 3x9 grid (Figure 2: Russian Lotto Board and Kegs). Each player is given either a marker or tokens so they can cross numbers off their boards. The players must listen as random numbers are said aloud by the host. If the number said by the host appears on a player's board, then the player crosses off or places a token on top of that number. Many variations can be played, but in most instances, the first person to find all 16 numbers wins. The game must be played with a minimum of 2 people.</p>
Photos	 <p>Figure 2: Russian Lotto Board and Kegs⁴</p>
Instructions and Rules	<ol style="list-style-type: none"> 1. Before the game can begin, the host is chosen from among the players. 2. The host is given a bag with small, numbered, barrel-shaped pieces of wood or plastic, called "kegs." 3. Numbers are called by the host by reaching into the bag and randomly selecting a keg. The host says the number on the keg aloud. 4. As each number is called, the players check their playing board and mark off if they have that number. 5. This process continues until one player wins by completing the whole playing board.
Material Rec. and Amounts	<ul style="list-style-type: none"> - For the Memory Club session in week two, the team made the playing boards with printer paper and a marker. This allowed the team to control the size of the numbers, so the elderly could best read them. The playing boards had 3x8 grids rather than 3x9 grids so the team could make the numbers as large as possible and only had numbers 1-50 on them. This made it so the games moved faster to fit within the timeframe. - If more than one round wanted to be played, the participants switched their playing boards with their neighbors and crossed off the numbers in a different way. During the first round, participants were instructed to circle their numbers. After boards were switched in the second round, the participants were instructed to cross out their numbers. Each participant had a different colored marker to avoid confusion.

	<ul style="list-style-type: none"> - If the kegs are unavailable, it is possible to use slips of paper with numbers on them instead.
Cognitive Function	Lotto requires concentration and listening skill to play. Since the game requires alertness to hear the numbers and remember the information to transfer it to the cards they are playing, it improves memory ⁵ . Researchers at the University of Southampton found that bingo players had better results in tests of memory, speed, and cognitive function than those who do not play the game, regardless of their age ⁶ . Significant improvement in hand-eye coordination occurs with many seniors due to the speed required and the repetitive nature of the game. Even seniors with dementia issues have shown improvement ⁷ .
Cognitive Difficulty	The game Lotto requires the activation of short term memory and a sense of auditory alertness. These are found in the frontal and temporal lobes respectively. Lotto was played in Weeks #2 and #5. The team observed that some participants benefited from looking at the numbers, alongside hearing them. In addition, Lotto does a good job accounting for the cognitive impairments of the participants. For instance, if a participant has already experienced significant cognitive impairment due to memory loss, they can always refer to their board for assistance to recall their numbers. ³


Trait	Score	Why?
Familiarity	3	This game was ranked as a three because everyone said they either agreed or strongly agreed when asked if they remembered the game from their childhood and played it before.
Enjoyability	3	This game was ranked a three because everyone said they either agreed or strongly agreed when asked if they enjoyed the game.
The Participants' Impairments	2	<p>Dexterity: This game was used with a marker to help those with poor motor skills.</p> <p>Auditory: This game is heavily reliant on auditory function, and the picked number had to be repeated multiple times to account for these.</p> <p>Visual: All participants were able to see their boards because they were created large enough.</p>
Social Interaction	3	Lotto received a three for social interaction because it is played with the entire group. Participants were helping their

		neighbors find a number and everyone was communicating the numbers they needed with each other.
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Game	Dominoes (Straight Dominoes)
Description	Dominoes is a classic numbered tile game, where the players must try to eliminate their hand of dominoes, before their opponent. Games can be played with 2-4 people.
Photos	 <p>Double-Six Domino Set 28 Tiles 168 Pips</p> <p>Figure 3: Double-Six Domino Set⁸</p>
Instructions and Rules	<ol style="list-style-type: none"> 1. Obtain a double-six domino set (See Figure 3: Double Six Domino Set) and lay all the dominoes face down, so no numbers or pips are showing. Shuffle the dominoes face down to randomize them. This is called the “boneyard”. 2. Remove dominoes as necessary, so that an equal number of dominoes can be distributed to each person. For 4 players, each player should have 7. For 3 players, remove 1 domino so each player has 9. For 2 players, each player has 14 dominoes. 3. The player with the double-six domino goes first. 4. The objective is to play the entire hand of dominoes. Players place dominoes end to end and match the numbers. 5. If playing a four-person game, players sitting opposite of one another are on a team. Without discussing, they must work together and try and block their opponents from being able to place anything, while still allowing for their teammate to place pieces. Dominoes can be placed on either end of the initial chain, or one piece on either end of the spinner (the double-six). 6. The first player on any team to completely get rid of their hand wins the game.

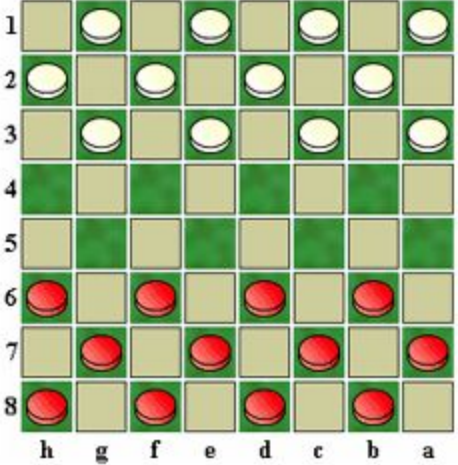
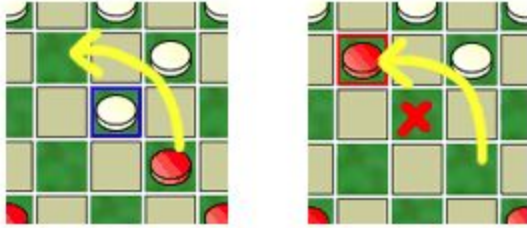
Material Rec. and Amounts	<ul style="list-style-type: none"> - A standard double-six dominoes set was sufficient for the participants. Standard domino dimensions are about 1-7/8" (47.63 mm) long by 15/16" (23.81 mm) wide by 1/4" (6.35 mm) thick. - A minimum of one set should be purchased for every four participants.
Cognitive Function	Depending on the type of dominoes being played, there are multiple benefits to dominoes. These benefits include improved arithmetic skills, enhanced critical thinking, and learning strategy. Straight Dominoes requires teammates to work together and generate the most productive moves to win. And since verbal communication would ruin the chances of that team winning, each player must critically think of what pieces are in their opponents' hand, as well as their teammates' in order to win the game. ⁹
Cognitive Difficulty	Playing dominoes requires pattern recognition and some elements of strategy (critical thinking). Pattern recognition and critical thinking are located in the frontal lobe, the center for "higher mental thought". When the team observed dominoes in the Memory Club Weeks #3 and #4, the participants enjoyed the game, and the team saw no observable struggles due to cognitive impairment. If a participant has experienced severe cognitive impairment, they may not play the correct domino or recognize patterns within the game. ³

Trait	Score	Why?
Familiarity	3	Dominoes is one of the few games at Orran in Yerevan. This is why it received a score of three.
Enjoyability	3	This game received a 3 because every game is different so the players don't lose interest over the course of the game.
The Participants' Impairments	2	<p>Dexterity: This game requires the participants to pick up and move small pieces which might be difficult for those with lowered motor skills.</p> <p>Auditory: Does not require any auditory skills so if participants have trouble hearing, they would be able to play this game.</p> <p>Visual: This game requires the participants to see the numbers on the dominoes, however, they are large enough to see.</p>
Social Interaction	2	When implemented into the program, the participants were playing on a team.

Game	Broken Telephone (Pchacac Heraxos)
Description	<p>Pchacac Heraxos is an Armenian folk game that is very similar to what Americans may know as “Broken Telephone”. Pchacac Heraxos usually uses a single word or phrase, and must be slightly altered as it moves from player to player around a circle. For example, if a player one said, “Soccer”, then the next player might say, “Cleat”, and so on. The enjoyment from the activity comes from the anticipation of hearing the word, and hearing how the word transitioned over time. The whispering of the word goes around the circle until it gets to the last player. The last player announces the final word, to show how much the original word changed. The team suggests a large group for this, but if it feels unmanageable, then the participants may be divided into smaller groups.</p>
Photos	 <p>Figure 4: Whispering in Pchacac Heraxos</p>
Instructions and Rules	<ol style="list-style-type: none"> 1. Have the players sit in a circle, close enough together so they can whisper to each other. 2. Have a player start by thinking of a word or phrase to use as the starting point. Once that person thinks of something, have them whisper it to the player to their left. 3. From there, the players who just received the message, must think creatively, and find a word that is similar or associates with the previous word but is not the same. This is then whispered to the next player (See Figure 4: Whispering in Pchacac Heraxos). 4. Everyone whispers a similar word to the previous one stated to them as the message travels through the circle until the cycle is completed and the message reaches the original player. 5. The last player shares how the word changed over time.
Material Rec. and Amounts	<ul style="list-style-type: none"> - No materials are required for this game. It is important to arrange the sitting area in a circle and make sure the participants are within whispering distance.


Cognitive Function	Being able to listen to what keyword or phrase was stated, and processing that information to come up with a word that is similar is key to the success of Pchacac Heraxos.
Cognitive Difficulty	This game requires auditory skills, short term memory activation, and some word association skills (critical thinking). The area of the brain associated with auditory processing is the temporal lobe. In Week #4 when Pchacac Heraxos was played, the team observed the participants and saw no major cognitive issues. Most of the issues could be attributed to their poor hearing. Pchacac Heraxos does utilize short term memory, and a person with large cognitive impairment may not find the game enjoyable. One could argue that this is where the challenge and fun of Pchacac Heraxos comes, especially if the phrase is long and complicated. ³

Trait	Score	Why?
Familiarity	3	All of the participants said that they recognized this game from their childhood and have played it before.
Enjoyability	3	Listening to the sentence get changed into a funny saying is fun. All of the participants said that they enjoyed the game after it was played.
The Participants' Impairments	2	<p>Dexterity: This game does not require any task involving hands.</p> <p>Auditory: If the participants have hearing problems then they might not be able to hear the phrase that is being whispered to them. Some participants only speak Russian so some might have difficulty understanding what the previous person just said.</p> <p>Visual: This game does not require any visuals.</p>
Social Interaction	3	This game requires others to listen and talk to one another, therefore interacting with one another as a whole group.

Game	Checkers (Draughts)
Description	Checkers, or draughts, is a strategy board game for two players which involves diagonal moves of uniform game pieces and mandatory captures by jumping over opponents' pieces.
Photos	 <p>Figure 5: Setting Up a Game of Checkers</p>  <p>Figure 6: Jumping in Checkers</p>
Instructions and Rules	<ol style="list-style-type: none"> 1. Checkers is played on a standard 64 square board. Only the 32 dark colored squares are used in play (See Figure 5: Setting Up a Game of Checkers). 2. Each player begins the game with 12 pieces, or checkers, placed in the three rows closest to them. The object of the game is to capture all of the opponent's checkers and position your pieces so that the opponent has no available moves. 3. Pieces can only move diagonally forward. To capture an opponent's piece, the player must "jump" the opponent's piece. There must be a free space behind the opponent's piece, for it to be an acceptable move (See Figure 6: Jumping in Checkers). 4. If a checker makes it to the opponent's end of the game board without getting captured, then it is "crowned" or "kinged". This is usually denoted by flipping the checker over. This new piece can now move

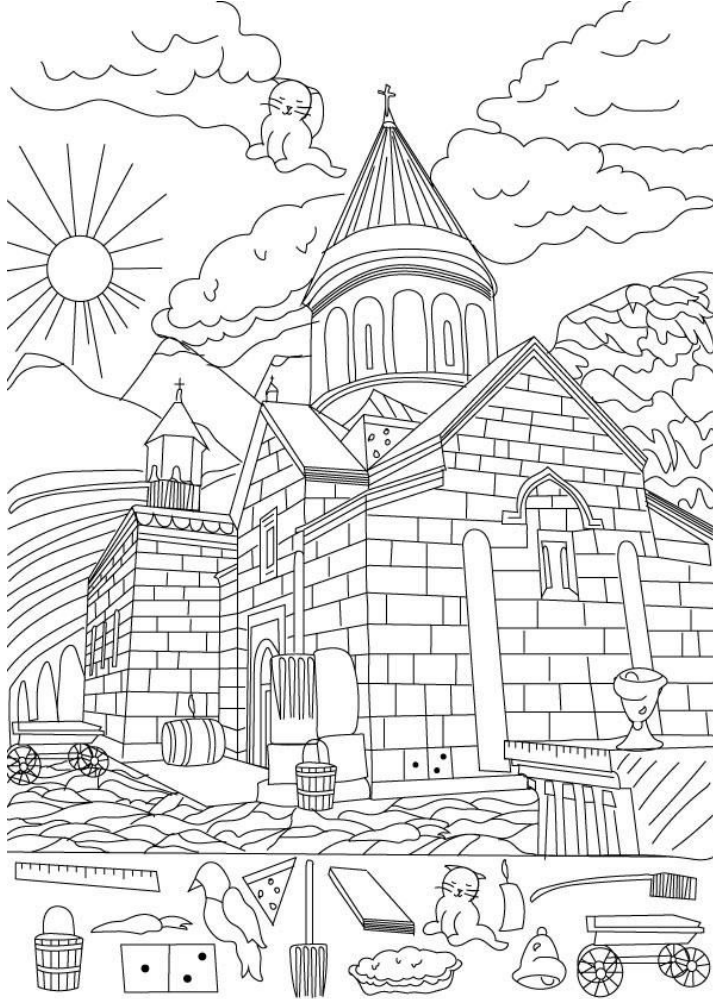
	<p>backward and forward diagonally. These “kinged” pieces can only move one space unless jumping the opponent.</p> <p>5. The first player to eliminate all of the opponent’s checkers wins.</p>
Material Rec. and Amounts	<p>- A standard checkerboard and pieces should be sufficient for the participants. These pieces should be around 1” (25.4 mm) in diameter, and around ¼” (6.35 mm) thick. In the Memory Club Week #5, the checkerboards were small magnetic travel versions. These were inexpensive but did pose some issues for the participants.</p>
Cognitive Function	<p>Board games, like checkers, require strategy and planning which can strengthen and make new connections in the brain and can “decrease the rate of mental and cognitive decline as we age.”¹⁰</p>
Cognitive Difficulty	<p>Checkers is a game that requires strategy (critical thinking) and pattern recognition. Critical thinking is located in the frontal lobe, the center for “higher mental thought”. In Week #5 when checkers was played, the team only observed two individuals who struggled to play checkers and needed assistance from the social worker at Orran. These individuals needed assistance planning moves in order to play the game as competitively as possible. Checkers was an example of a game that did an adequate job in accounting for the cognitive impairments of the participants, but was too complex for some with more severe impairments.³</p>

Trait	Score	Why?
Familiarity	3	This game was said to be extremely familiar on the surveys issued by the team. The team also observed the participants needed very little explanation on how to play checkers. They were able to set up and start playing the game without guidance.
Enjoyability	3	This game was observed to be enjoyable by the participants and was heavily favored over backgammon.
The Participants’ Impairments	2	<p>Dexterity: This game requires the participants to pick up and move little pieces on the board which might be difficult for those with lowered motor skills.</p> <p>Auditory: Does not require any auditory skills so if participants have trouble hearing, they would still be able to play this game.</p> <p>Visual: The board and checker pieces are easy to see.</p>
Social Interaction	1	This game is played with only one other opponent, therefore requires little social interaction.

Game	Zelena
Description	Zelena is a singing Armenian folk game that is played with a large group organized in a circle.
Photos	 <p>Figure 7: Modified Zelena</p>
Instructions and Rules	<ol style="list-style-type: none"> 1. Arrange chairs in a circle for the participants to sit in. 2. Choose someone to become the host, the facilitators will most likely be the host. 3. Have the players begin singing “Zelena, Zelena, hop Zelena, Zelena”. If some of the participants are unfamiliar with the song, the song can be practiced. 4. The host will then designate an action for the round. Typically, Zelena requires the participants to squat after the host stops singing. Since that was too physically demanding, we had the participants clap and place their hand on their head (See Figure 7: Modified Zelena). 5. Once the game starts, and the singing begins, the host will then choose a random time to stop the singing. The player should complete the action as soon as the singing stops to avoid being eliminated. 6. The last person to do the required action is eliminated. 7. The rounds will continue until there is one person left. That last person is declared the winner.
Material Rec. and Amounts	<ul style="list-style-type: none"> - There should be enough chairs for the participants to sit in, and enough space for the chairs to be arranged in a circle. This game does not require any other materials.
Cognitive Function	<p>Music is beneficial and therapeutic to those affected by memory loss disorders. Alzheimer's Society provided a service called “Singing for the Brain”. The first half hour of the program gave time for the participants to talk and socialize, then for the next hour, sing songs together. One of the participants mentioned being able to sing a song by himself, giving a sense of independence. It was one of the first times in a while that the participant felt a true sense of confidence and</p>


	self-efficacy ¹¹ . Music, combined with other stimulating activities, can have a large impact on improving the cognitive function of Alzheimer's patients.
Cognitive Difficulty	Music and singing is an activity that has a very low cognitive difficulty, with lots of benefits. Singing puts little stress on the brain, and remembering and recalling songs is where it can be cognitively difficult. The physical actions required in Zelena are simple and repeated multiple times. To avoid getting eliminated the participants must act fast, and the more cognitively impaired participants may be at a slight disadvantage because of their slower processing speeds. When Zelena was played in Week #6 of the Memory Club, the team observed full participation in the game. A few practice rounds of singing were utilized to help the participants recall the song, but after a few minutes, the participants were ready to play. No one was unable to sing or do the required physical actions, and the cognitive difficulty of the game did not deter anyone from being unable to play.

Trait	Score	Why?
Familiarity	2	When observed during Week #6, the room was split on the familiarity of this game. Some recognized it immediately and began singing, others needed to practice to get reacquainted. For that reason, the game received a 2.
Enjoyability	3	The game was very enjoyable to the participants when it was implemented into the program. The participants even added to the fun by creating their own rules.
The Participants' Impairments	2	Dexterity: This game only requires people to hold one another's hands. Auditory: People who have trouble hearing will not be able to play this game to its full extent. Visual: This game requires no small parts or writing.
Social Interaction	3	This game involves playing with the entire group which is why it scored a three.

Game	Halamola (Hide and Seek)
Description	Halamola, or Hide and Seek, is an Armenian folk game. Halamola was modified to make the game less physical for the participants. The team created a hidden figures game with an image of Geghard Monastery. This activity was designed to be done in pairs.
Photos	 <p>Figure 8: Halamola Hidden Figures Sheet</p>
Instructions and Rules	<ol style="list-style-type: none"> 1. Have the participants pair up. This game is best played with a teammate. 2. The facilitators should hand out the sheet face down. Every group will be told to start at the same time. 3. When the facilitator says start, the groups may turn over their papers. 4. The 14 hidden figures are listed at the bottom of the page (See Figure 8: Halamola Hidden Figures Sheet). Some hidden figures were made to be easier to find than others.

	5. The first team to locate all of the hidden figures within the top image is declared the winner.
Material Rec. and Amounts	<ul style="list-style-type: none"> - This hidden figures sheet will be made available to use for future Armenian Memory Clubs. Unfortunately, since it was designed by the team for single use, there are no other Armenian hidden figures games of this type. - Future Memory Clubs can use other hidden figures games, that do not have a relation to Armenia, or future Memory Clubs can make their own. - The team printed out one copy for every two participants. Each participant received their own writing utensil to mark off discovered hidden figures.
Cognitive Function	Hidden figures games require a unique and intense focus. Hidden figures games have been said to train your brain on identifying objects within a crowd. Hidden figures games like, “Where’s Waldo?” have been shown to increase rapid eye movement and brain processing speeds ¹² .
Cognitive Difficulty	When the team observed the hidden figures game Week #6, we saw that some of the participants with more severe visual impairments did struggle with this activity, but no participants could not participate due to cognitive ability. The team made an effort to make some images easier to find than others, so more impaired individuals could find some images, to feel included and gain some benefits.

Trait	Score	Why?
Familiarity	3	Despite the changes that were made to Halamola, all the participants recognized the game.
Enjoyability	3	This game is challenging, but groups were still able to enjoy the game.
The Participants’ Impairments	2	<p>Dexterity: This game requires holding a marker which we know they are all able to do.</p> <p>Auditory: This game is traditionally silent.</p> <p>Visual: This game doesn’t take into consideration people with visual impairments because the participants are looking for something and if they can’t see it then they’ll never be able to find it.</p>
Social Interaction	2	When this game was implemented in the Memory Club, the game was played on a team of 2.

Game	Jigsaw Puzzles
Description	A jigsaw puzzle is a tiling puzzle game that requires the assembly of oddly shaped interlocking pieces. Each piece usually has a small part of a picture on it; when complete, a jigsaw puzzle produces a complete picture.
Photos	 <p>Figure 9: Participants Completing Puzzles</p>
Instructions and Rules	<ol style="list-style-type: none"> 1. Have the group that will be completing the puzzle decide if the group wishes to look at the complete picture on the box. If the groups want to challenge themselves, they can go without the final image, but the team recommends the use of the box. 2. Lay out all the puzzle pieces face up so the picture can be seen. 3. Complete the puzzle by putting the matching pieces together. The edges and grooves must match, fit flush, and complete the final picture (See Figure 9: Participant Completing Puzzle). 4. Any puzzle solving strategies can be utilized. This can be sorting the pieces by color or completing the edges and corners of the puzzle first.
Material Rec. and Amounts	<ul style="list-style-type: none"> - The team recommends a puzzle for every two participants within the Memory Club. If there are too many participants working together on a single puzzle then not everyone will be able to make a significant contribution. - For the elderly, the team recommends puzzles between 24-60 pieces. 60 piece puzzles took about 20 minutes for a group of three. Within the Memory Club setting, no puzzles over 60 pieces were done due to the difficulty posed by larger puzzles and time constraints. - It is important to make sure the images can be easily seen by the participants. Images that the participants recognize are advantageous.
Cognitive Function	Jigsaw puzzles are an example of a fun activity that strengthens brain skills and improves memory. Seniors who have Alzheimer's need to do activities that stimulate cognitive functioning. Puzzles get the brain working and allow for social opportunities. ¹³ This activity helps pass the time and promotes social

	interaction while strengthening the brain. In addition, a recent study ¹⁴ of the effects of different activities on cognitive and visual-spatial performance revealed that seniors with memory loss who worked on puzzles showed improvement in their short-term memory.
Cognitive Difficulty	Puzzles are a great cognitive activity but can pose problems for those who fail to understand the rules, or have severe vision impairments. When tested in the Memory Club Week #7, no participants were unable to complete the activity due to cognitive impairments. Puzzles activate areas of the frontal lobe. If a participant has severe cognitive impairments, then the difficulty of puzzles can be decreased with the number of pieces per set. The team recommends sets of no more than 30 pieces for those with severe impairments. To aid in their success, the facilitators can teach them puzzle solving strategies, like sorting by color or completing the edges first.

Trait	Score	Why?
Familiarity	2	One-third of the participants in the Memory Club did not recognize puzzling as an activity from their childhood, therefore it only scored a two.
Enjoyability	3	The participants were observed to enjoy the puzzles, and the puzzles were able to challenge the participants.
The Participants' Impairments	2	Dexterity: The small pieces could pose issues for the participants. If available, the team should look for large puzzle pieces. Auditory: Minimal communication is required. Visual: The picture on the puzzle should be easy to see.
Social Interaction	2	Puzzles were done on teams of three in the Memory Club, which is why it scored a two.

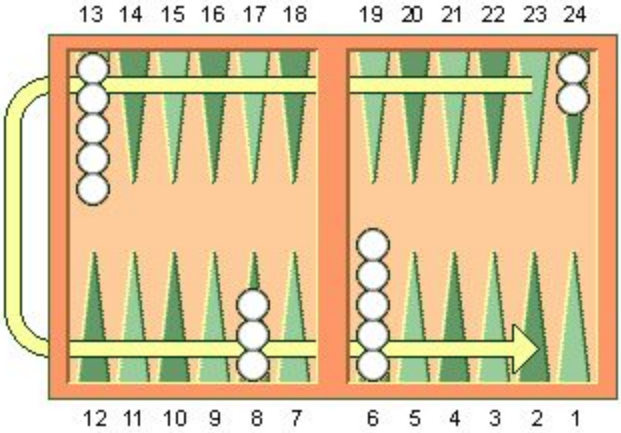
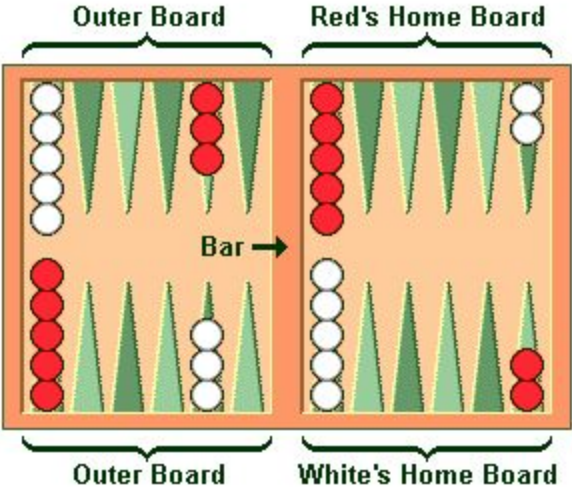
Games Not Played in the Memory Club

The games listed below were the games that passed the filters but were not picked or not played for the Memory Club. There are no observations on these games.

Game	Hot and Cold (Tag Saruh)
Description	The Hot and Cold game is a simple game intended for large groups. The group hides an item, and one person is tasked with finding it. The group yells either “hot!” or “cold!” to describe how close the person is to the object. Tag Saruh is played in a similar way, with the participants singing louder when the person gets closer to the object. This game is played with 2 or more people.
Photos	N/A
Instructions and Rules	<ol style="list-style-type: none"> 1. For Tag Saruh, one of the facilitators will assist the participants in hiding a small object within the designated play area. 2. The participants will then sing, as a different facilitator searches for the item. The participants sing faster and faster depending on how close the facilitator is to the object. 3. The goal of the game is for the facilitator to find the item. A time frame can be implemented to make the game more competition based.
Material Rec. and Amounts	<ul style="list-style-type: none"> - A small item is the only requirement of this game. This item can be anything but should be somewhat distinguishable from its surroundings.
Cognitive Function	The cognitive function of this game is very similar to that of Zelana (See Zelana Cognitive Function Section).
Cognitive Difficulty	<p>The team predicts that the cognitive difficulty of this game would be similar to that of Zelana. This is an assumption because this game was not tested during the Memory Club (See Zelana Cognitive Function Section).</p> <p>Note: This game was suggested by the facilitators to be played during the Memory Club Week #6, but the participants were not enthusiastic about playing it, so it was not played. This could be indicative of low enjoyment but is not conclusive.</p>

Trait	Score	Why?
Familiarity	2	When collecting games from the Armenian community, this game came up a few times. However, not everyone mentioned it, and we modified the game so it was less physical, therefore not many of the participants recognized it.


Enjoyability	0	When this game was presented in the program, the participants were unenthusiastic about this game and did not want to play.
The Participants' Impairments	3	<p>Dexterity: This game doesn't include picking anything up or putting anything down, therefore, it will be able to be played by anyone with poor motor skills.</p> <p>Auditory: Because everyone will be singing together, and it will be loud, people with auditory impairments will be able to hear the singing.</p> <p>Visual: Participants with visual impairments can play this game because they will be able to tell when the person is getting closer regardless of whether or not they can see it by listening to the singing get louder.</p>
Social Interaction	3	This game received a score of three because the entire group would be singing/talking in order to get the person closer to the object they were looking for. This is similar to Zelana which received the same score.

Game	Backgammon
Description	A game played between two people where each player has fifteen checkers. The goal of this game is to move all fifteen pieces into their own “home zone” and remove them from the board.
Photos	 <p>Figure 10: Backgammon Board</p>  <p>Figure 11: Moving Checkers</p>
Instructions and Rules	<ol style="list-style-type: none"> 1. Set up the board with your pieces in the starting position (See Figure 10: Backgammon Board). It is the goal of each player to return all their checkers to their home base. 2. A checker may be moved only to an open point, one that is not occupied by two or more opposing checkers. 3. The numbers on the two dice constitute separate moves. For example, if a player rolls 5 and 3, he may move one checker five spaces to an open point and another checker three spaces to an open point, or he may move the one checker a total of eight spaces to an open point, but only if the

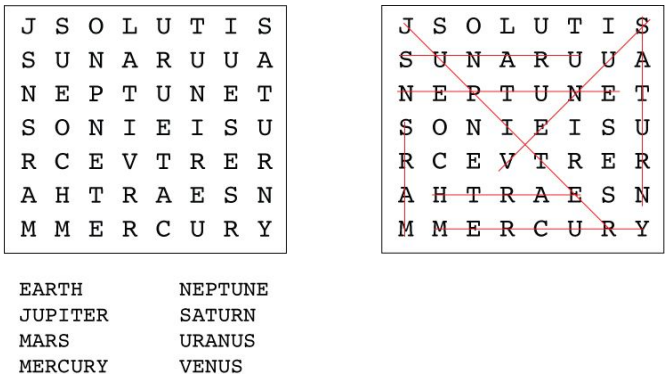
	<p>intermediate point (either three or five spaces from the starting point) is also open (See Figure 10: Moving Checkers).</p> <ol style="list-style-type: none"> 4. A player who rolls doubles plays the numbers shown on the dice twice. A roll of 6 and 6 means that the player has four sixes to use, and he may move any combination of checkers he feels appropriate to complete this requirement. 5. A player must use both numbers of a roll if this is legally possible (or all four numbers of a double). When only one number can be played, the player must play that number. Or if either number can be played but not both, the player must play the larger one. When neither number can be used, the player loses his turn. In the case of doubles, when all four numbers cannot be played, the player must play as many numbers as he can. 6. The first player to bring all their checkers to the home base wins.
Material Rec. and Amounts	<ul style="list-style-type: none"> - The team recommends one backgammon board and pieces for every two participants within the Memory Club. Backgammon pieces should be easy to handle.
Cognitive Function	Board games, like backgammon, require strategy and planning which can strengthen and make new connections in the brain and can “decrease the rate of mental and cognitive decline as we age.” ¹⁰
Cognitive Difficulty	Backgammon is a game that requires strategy (critical thinking) and pattern recognition. Critical thinking is located in the frontal lobe, the center for “higher mental thought”. The team learned during the Memory Club session Week #5 that backgammon is traditionally only played by men in the country of Armenia. Since the Memory Club tested in Vanadzor was predominantly women, this game was not played. During Memory Club Week #5, the participants were given the option to play either backgammon or checkers, and all pairs chose to play checkers. For this reason, and backgammon’s complicated rules, the team would not recommend this game.

Trait	Score	Why?
Familiarity	1	This game is traditionally only played by males in Armenia, therefore the game was unfamiliar to all of the females in the program.
Enjoyability	3	The team found that backgammon was an excellent game that has Armenian roots, and is extremely popular.

The Participants' Impairments	2	<p>Dexterity: This game requires the participants to pick up and move little pieces on the board which might be difficult for those with lowered motor skills.</p> <p>Auditory: Does not require any auditory skills so if participants have trouble hearing, they would be able to play this game.</p> <p>Visual: The board and pieces are easy to see.</p>
Social Interaction	1	This game is played against one other person.

Game	Word Wall
Description	A word wall is a collection of words which are displayed in large visible letters on a wall, bulletin board, or another display surface in a classroom. The word wall is designed to be an interactive tool for students and contains an array of words that can be used during writing and reading. ¹⁸
Photos	 <p>Figure 12: Sample Word Wall</p>
Instructions and Rules	This is not necessarily a game, and more of a useful tool for learning and remembering items. Any word can be placed on the word wall, but it is typically a teaching tool for young kids learning to spell and read (See Figure 12: Sample Word Wall). A word wall is typically visited regularly to refresh users on past reading and writing topics. Words can be added on to increase the difficulty as words are learned.
Material Rec. and Amounts	- A large cork board, whiteboard, or chalkboard must be available for use.
Cognitive Function	Word walls are mainly used as phonics and spelling tools for students. They help students make connections between words and recognize patterns with language. ¹⁵
Cognitive Difficulty	Word Walls could be an excellent tool for the cognitive development of the elderly. Although not competitive or a game, it would help the elderly because of the areas of the brain associated with learning that will be targeted. Since the activity is not timed, or against anyone, the elderly can learn at their speed, which is an advantage if the participants are severely impaired cognitively. Although there are lots of advantages, the team feels it may be out of the scope of the terminology of what makes a “game” and is more of a tool.


Trait	Score	Why?
Familiarity	0	This is a classroom exercise in America, and will not be familiar to the participants.
Enjoyability	0	This game is more of an exercise than played for enjoyment.
The Participants' Impairments	3	<p>Dexterity: Since the words will be put up by the instructor, the players do not have to do anything with their hands.</p> <p>Auditory: Besides the initial explanation of the game, this only requires players to tell the instructor a word to put on the board.</p> <p>Visual: If the words are on the wall, they will be big enough for everyone to see from anywhere in the room.</p>
Social Interaction	0	This game scored zero because each individual can make their own word wall.

Game	Word Search
Description	A grid of randomized letters is given to the player, with a word bank underneath. The player must find the words in the grid and circle them or mark them in some way. Word searches are typically done alone, but this activity can be done in pairs.
Necessary Photos	 <p style="text-align: center;">Figure 13: Word Search Example and Solution</p>
Instructions and Rules	<ol style="list-style-type: none"> 1. Decide if this activity will be done with a partner or alone. 2. Search for the words listed at the bottom of the page, in the given field of letters. Words can be placed horizontal, vertical, diagonal, or even backward within the field of letters. 3. Once a word is found, it should be circled and crossed off the bottom of the page (See Figure 13: Word Search Example and Solution). 4. The word search is completed once all the words have been found.
Material Rec. and Amounts	Word searches are inexpensive and can be downloaded off the internet. Since the team did not have the opportunity to test word searches in the Memory Club, we can not make concrete recommendations on dimensions of the word search. But, if the team were to implement within the Memory Club, we would most likely prepare word searches of various sizes to help with the participants who are either cognitively impaired or visually impaired. For additional familiarity for the participants, custom word searches can be made using terminology or themes that the participants would recognize.
Cognitive Function	Word searches require the player to search for identifying letters and sequences of letters in order to find the hidden words. For example, if the hidden word is “QUESTION”, the participant should look for a sequence of letters starting with “Q” then “U”. It is easier for the brain to search for these sequences, rather than an entire word.
Cognitive Difficulty	This game was not observed during any Memory Club Week. Hidden figures (Halamola) was tested in the Memory Club, which activates similar areas of the brain. Applying these observations, the team can predict that this game will give

	the participant little cognitive struggle (unless severely impaired), but could create issues with visual impairments. The difficulty of the game could be increased or decreased depending on the number of words in the puzzle, the length of words being used, and the dimensions of the playing field.
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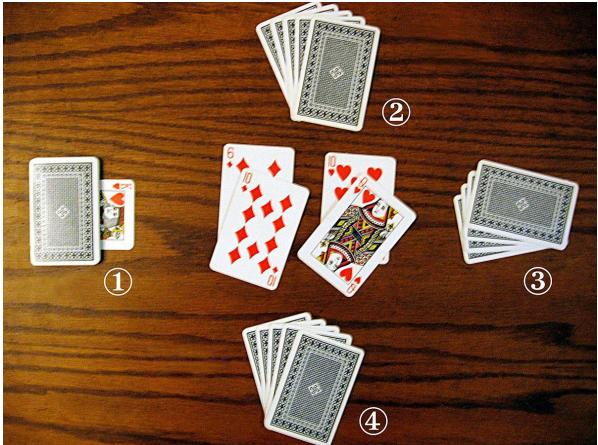
Trait	Score	Why?
Familiarity	3	This game scored a three because word searches are common worksheet games along with crosswords.
Enjoyability	3	Word Searches are a great game because difficulty can easily be increased to make it more challenging and everyone is happy once they find all the words.
The Participants' Impairments	2	<p>Dexterity: The participants need to be able to use a writing implement of some kind. This can be a pencil, highlighter, or a marker.</p> <p>Auditory: No listening is required for this activity.</p> <p>Visual: Reading small fonts of word searches could be difficult for the participants. These word searches should be made with a large, easy to read font.</p>
Social Interaction	0	This game is normally played independently.

Game	List Twists
Description	List Twists are a game in which the player has a certain amount of time to study a list of words, and once that time is up, they have to answer specific questions about the words that were on the list. List Twists are normally done alone.
Necessary Photos	<div data-bbox="792 533 1049 1297"><p>List 5 1 minute</p><ol style="list-style-type: none">1. doctor2. lawyer3. teacher4. preacher5. carpenter6. architect7. artist8. actor9. musician10. farmer11. plumber12. tailor13. pilot14. mechanic15. technician16. chef</div> <p>Figure 14: Sample Word List</p>

	<p style="text-align: center;">List Twist</p> <p>List 5 – Quiz 1</p> <ol style="list-style-type: none"> 1. How many occupations were on the list? ____ 2. Was <i>painter</i> on the list? ____ 3. Name at least two occupations from the list that end in <i>or</i>. _____ 4. What were the first four words on the list? _____ _____ 5. What was the shortest word on the list? _____ ----- <p>List 5 – Quiz 2</p> <ol style="list-style-type: none"> 1. What was the only word on the list that begins with F? _____ 2. Add the missing words from the list. Write them in the same order as they appeared on the list. _____, lawyer, _____, _____, carpenter, _____, _____, _____, musician, _____, _____, _____, pilot, _____, _____, _____ 
<p>Instructions and Rules</p>	<ol style="list-style-type: none"> 1. Have the facilitators print the word lists and quizzes. Separate the word lists and the quizzes so that only one word list or one quiz is on a piece of paper. 2. Have the participants study the list of words for the designated amount of time (See Figure 14: Sample Word List)¹⁶. 3. When the time has expired, remove the list from the sight of the participants. 4. Have the participants try to complete the first quiz for the word list studied (See Figure 15: Sample List Twist Quiz)¹⁶. 5. If they are 100% successful, have the participants advance to the second quiz. 6. If the participant is unable to complete the first quiz, return the word list to the participant and have them study it again, for half the time that it was initially studied. For example, if it was looked at for one minute the first time, review it for 30 seconds the second time. Then take the second quiz. 7. Repeat these steps for additional lists.
<p>Material Rec. and Amounts</p>	<p>List Twists should be done alone, so there should be as many copies of the word lists and quizzes, as there are participants in the Memory Club.</p>
<p>Cognitive Function</p>	<p>This game practices short-term memory recall. The areas of the brain utilized in list twists are very similar to those used during Concentration.</p>

Cognitive Difficulty	Although the game was not observed during a Memory Club session, the difficulty of the List Twist can be adjusted by shortening the number of words that need to be memorized. Shorter lists would be ideal for those with significant cognitive impairment.
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Trait	Score	Why?
Familiarity	0	This game received a zero because none of the participants ever mentioned this game during our interviews. It seemed like a game that was only played in the United States rather than in Armenia, so we assumed that none of the participants would know it.
Enjoyability	2	This game was given a two because this game offers a large challenge for those who struggle with memory loss, therefore we believe that some people will not enjoy the game if they are not able to do it.
The Participants' Impairments	2	<p>Dexterity: This game does not require fine motor skills other than writing, which we have confidence the participants are able to do because we saw them paint.</p> <p>Auditory: This game does not have to include communication, therefore anyone with auditory problems will be able to play.</p> <p>Visual: This game is purely visual, if the participants have a hard time seeing the list they will have a hard time answering the questions.</p>
Social Interaction	0	One player can study the list of words and then answer the questions by themselves.

Game	Durak
Description	<p>Durak is a traditional card game played in Armenia. Durak means fool and it refers to the person who loses the game. A standard 52 card deck is used, with the 2's-5's removed. Each player gets dealt 6 cards. The first card of the deck is drawn and placed under the deck so it is still visible. This is the "trump" suit (diamonds in this example). The game proceeds similar to "War", with the players "attacking" the player to the left. 6's are low and aces are high. However, any card of the "trump" suit would beat any card of another suit. So a 6 of diamonds would beat an ace of spades. Play proceeds clockwise and cards are drawn to remain at 6 after each "attack". This game is best played with 4 players, but can also be played in groups of 2 or 6.</p>
Photos	 <p>Figure 16: Example of playing Durak with four people</p>
Instructions and Rules	<p>Note: There are two variations of Durak: Podkidnoy¹⁸ Durak and Perevodnoy Durak. Podkidnoy Durak is explained below¹⁷.</p> <ol style="list-style-type: none"> 1. A standard 52 card deck is used, with the 2's-5's removed. There should be 36 cards. The objective of the game is to get rid of all of your cards. 2. Each player should be dealt 6 cards face down. The top card of the remaining deck is placed face-up. This card defines the trump suit for the game. 3. The rest of the deck is placed above the face-up trump card. The first time it does not matter who deals. The following times the dealer will be the person who lost the previous game. 4. The first person to play is the one who holds the lowest trump suit in his hand. The game proceeds in a clockwise direction. 5. The player who started to play acts as an attacker and the player sitting next to him in a clockwise direction acts as a defender. The attacker throws any card he wishes from his hand and the defender must beat this card. A card can be beaten by a higher card of the same suit or any card of the trump suit unless the card is itself from the trump suit. In the latter case, it can only be beaten by a higher trump.

	<ol style="list-style-type: none"> 6. If the defender cannot or does not want to beat the card of the attacker he must collect it and add it to his hand. If the defender beats the card the attacker can add another card of the same rank of one of the cards on the table. The defender must beat this card too. 7. Apart from this, other players at the table can attack the defender if they had cards from the same rank as one of those on the table. The defender cannot be attacked by a number of cards that exceeds the number of cards in his hand. Besides, in the most common variation of Durak, this number cannot exceed 6, even if the defender has more cards. If the defender cannot beat one or more cards he has been attacked with he must collect all the cards at the table and add them to his hand. If the defender succeeds to beat all the cards, these cards are discarded and placed in a separate heap. In the next turn, the defender will attack. 8. After the turn is over, no matter whether the defender succeeds to beat all the cards or has to take them, the players who have less than 6 six in their hands compensate their hands from the remaining deck, so everyone at the table will have at least 6 cards. 9. The cards are taken by the attackers of the previous turn in the clockwise direction starting with the person who has attacked first. The defender is the last person to take cards. If there are no cards left in the remaining deck the face-up trump card is taken by the person whose turn it is to take cards. After this, no more cards are taken and the game continues until all people one by one get rid of their hands. The person who remains with the cards is called Durak.
Material Rec. and Amounts	A standard deck of cards is used for this game. Concentration also utilized standard playing cards and was tested in the Memory Club Week #1. It was difficult for some participants to grasp and pick up the cards, due to the cards being so thin. The team recommends using larger or thicker cards if available.
Cognitive Function	Playing card games have shown to improve concentration, memory, and analytical skills. Card games also provide avenues of social interaction. ¹⁹
Cognitive Difficulty	Note: This game's success is highly dependent on the participants' ability to know and understand the rules of Durak. Understanding the complexity of this game is crucial to receiving its cognitive benefits. The game encompasses elements of pattern recognition and strategy, which have been observed in games like checkers and dominoes. Both of these games required "higher mental thought" in order to make precise and useful moves to win. The team would predict that Durak would also fall under this category of strategic games (See Checkers Cognitive Difficulty). The team predicts that participants with severe and moderate cognitive impairment may not enjoy Durak.

Trait	Score	Why?
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Familiarity	3	Durak was a very popular game in the Soviet Union and has spread to many countries including Armenia. It is very well known, especially in post-soviet states.
Enjoyability	3	A score of 3 was chosen because this game allows for many different “wins” inside of the overall system of trying to win the game. It is also played in teams which helps to foster competition.
The Participants’ Impairments	2	<p>Dexterity: Handling cards could pose issues for the participants.</p> <p>Auditory: The game relies on the numbers on the cards, so no talking is required beyond the initial explanation.</p> <p>Visual: The format of the game uses classic playing cards, which are easily legible.</p>
Social Interaction	1	A score of one was given because this game can be played with two players playing against each other.

Memory Club Syllabus

Below is a syllabus which includes all of the discussions, games, and art activities that happened each week of the Memory Club pilot program. For each of the elements, a description and the observations are included.

Week	Activity	Description
Week 1	Discussion: An “Adjective Name Game” Icebreaker	The icebreaker was used to learn the names of the participants and familiarize them with each other. The participants had a hard time remembering the names and adjectives of the two people that went before them. A few people were able to complete the activity and one participant was able to remember more than six names. This activity was not very successful because there were a lot of distractions and noise in the room. It took longer than expected to complete. This activity should be changed to asking the participants to remember as many names as they can and taking out the adjective.
	Game: Concentration	Concentration was a game that many of the participants found difficult to play, and had not played in the past. Four participants learned the game very quickly, whereas another group of four did not understand the game and stopped playing after becoming frustrated. Many of the participants also had trouble picking the cards up from the table. Due to difficulty and low enjoyment results, the team decided not to use Concentration again in the future.
	Art and Craft: Painting a Still Life	All of the participants enjoyed painting the still life, and some decided to paint something completely different. One participant had poor eyesight, and could not see the still life setup that was supposed to be painted. Another participant had trouble holding the paintbrush. This would be a good activity to use in the future because it was easy for the participants to complete and they all enjoyed it.
Week 2	Discussion: “How was your week?”	The participants responded that they were very happy and becoming more active. The Memory Club was something they looked forward to every week.
	Game: Lotto	The participants were very enthusiastic about playing Lotto and immediately asked to play again after the first round. They would often look at each other’s boards to see who was closer to winning and would help the person next to them find the number that was called. Lotto should be played again because the participants all enjoyed it and it provides cognitive benefits. This game can also be played with any number of people.
	Art and Craft: Painting a Design	The participants painted traditional Armenian ornaments that were printed out on their pieces of paper. These shapes were representative

		of the patterns depicted on Armenian rugs. Some people used the colors of the Armenian flag, while others used any color they wanted. This would be a good activity to use in the future as everyone enjoyed painting and how they were able to paint familiar designs.
Week 3	Discussion: “How do you like the program so far?”	They responded that they were all enjoying the program, and it gave them something to look forward to each week.
	Game: Dominoes	This was the first week time sampling was used as an observation tool. The participants immediately knew how to play the game, and did not need any help with the rules. Since there were an uneven number of players, the team played multiple rounds with the participants. The team’s increased social interaction with the participants had a positive effect. More people spoke and asked questions than in previous sessions. However, the only group that did not have a team member playing with them stopped playing earlier. This group also talked very little during the game, and afterward when they were waiting for the tea break to start. This was in contrast to the participants interacting with the team. Dominoes should be played again as the participants enjoyed the game and were able to replay it a few times before getting tired.
	Art and Craft: Drawing a Self Portrait	The participants found drawing the self-portraits very difficult. Whereas in previous weeks they wanted to take pictures with their work and take it home, few participants were proud of their work this week. Several people voiced that they did not like their drawing.
Week 4	Discussion: “What has been your favorite part? What would you like to play in the future?”	They responded that their favorite parts so far had been playing lotto, painting, and playing dominoes. Concentration was difficult for them. The program helped them remember their past, allowed them to forget about their problems, and helped them concentrate/boost their intellect.
	Game: Broken Telephone	The participants were much more social and talkative during this week than in previous weeks. However, the participants only played for five minutes, after which they got bored and wanted to play a different game. Broken Telephone would be a good game to play in the future, but as a backup game, not a game that takes the length of the game portion. Broken telephone was supplemented with two other word games. Dominoes was played again to fill the rest of the allotted game time.
	Art and Craft: Creating a Paper Collage	The participants cut out paper flowers, butterflies, baskets, and glued them together to make a collage. The male participants were more reluctant to take part in this activity, however, they still participated after initial suggestions from the Orran staff.

Week 5	Discussion: “How do you like the Memory Club? Do you want to continue after we leave?”	The participants said they had been having such a wonderful time and would love to continue the program.
	Game: Checkers	The team gave them the choice of players checkers or backgammon. Everyone chose checkers because backgammon is a game mostly played by men in Armenia and the majority of the participants were women. All the participants were able to play about two rounds of checkers before getting tired. Checkers should be played again as the participants enjoyed the game and it lasted a fair amount of time. However, a second game would need to be played along with checkers to fill the entire game session.
	Art and Craft: Ceramics	The participants made Easter eggs and rabbits out of clay using stamps and textured rollers. All the participants seemed to love using clay and only one needed help cutting out the egg shape.
Week 6	Discussion: A reminder	The team reminded the participants that next week will be our last session and hoped that everyone could come.
	Game: Zelena and Halamola	For the sixth week of the memory club, two games were played: Zelena and Halamola. Zelena is a game in which participants stand in a circle holding hands singing “Zelena Zelena, hop Zelena” and on the last Zelena, the participants need to clap and put their hand on their head. The last person to do the action is out and the circle gets smaller and the game continues. The second game that was played was Halamola, also known as hide and seek. To alter this game for the participants, the team made a hidden figures worksheet. This was designed so that some objects were easy to find while others were harder to find. This was aimed to allow all participants to be able to find an object no matter their level of cognitive impairment. The hidden figure image was created to look like Geghard so the participants would be looking at a familiar image. However, this game would be considered a backup game because it took the participants less than ten minutes to complete the worksheet.
	Art and Craft: Painting their Ceramics	The participants painted the Easter eggs that they created the previous week. Some participants painted the patterns they created with the clay while others brought in their own creativity and painted a different pattern from what was already on the egg.
Week 7	Discussion: Ranking favorite and most challenging	For the final week, we asked the participants to rank all the games from their most favorite to least favorite as well as which one they thought was most challenging to least challenging. The team discovered lotto, dominoes, and jigsaw puzzles were their top three favorite games. The

	games	the most challenging were jigsaw puzzles, concentration, and checkers.
	Game: Puzzles	For the final week, the participants did jigsaw puzzles. The room was split up into groups of three or four. Three groups got a 60 piece puzzle and one group got a 30 piece as well as other small puzzles. We gave the smaller puzzles to the group of participants who needed assistance with other games in the past.
	Art and Craft: Ceramics	The participants used clay again to make pinch pots. Most of the participants were able to do this all on their own. One participant needed a push to start making their pot. They used the same stamps that were used for the eggs to add a pattern on their bowl.

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