

## General description form for teaching tools

<b>Teaching Tool description</b>	
Title	„Broken Squares“ (adapted from: Andrade, S.G. Teoria e Prática de Dinâmica de Grupos: jogos e exercícios. 1999. São Paulo, Brasil)
Language	Portuguese and English
Audience	Has been used with undergraduate students of medicine and engineering as well as at a post graduate and CME level with physicians and nurses
Goals/educational objectives Link with Core curriculum	<p><b>Core Curriculum</b> – Part C (items 6 and 7)</p> <p><b>Objectives:</b></p> <p>(a) To analyze certain aspects of cooperation in solving a group problem;</p> <p>(b) To sensitize the participants to some of their own behaviours, which may contribute toward, or obstruct, the solving of a group problem;</p> <p>(c) to reflect about the non-verbal aspects of communication in team work;</p> <p>(d) to reflect on common goals</p>
Type of tool	Group dynamics
Brief description	This is a group dynamics exercise for teaching in small groups to practice skills in cooperation, team work, problem solving and non-verbal aspects of communication. To use with minimum of 6 participants or 12 (5 do the squares, one observer). The pack includes instructions for making the squares and preparing envelopes, instructions for facilitators, participants and observers. It seems very easy for the participants to make the squares, you will however be amazed at how difficult the task can be for all levels of participants. You should clarify the rules very well and allow time for the squares to be completed (about 15 minutes) and then for feedback and discussion of the objectives and transposition of the objectives of the exercise to real life team-work.
Practical resources	<p><b>(a) Human resources</b> –facilitator (1), of the learners – 5 for building the squares, 1 as observer. Participants need only to know the rules of how to behave during the exercise (ex. No talking, can only give pieces not ask for pieces) and understand what a square is.</p> <p><b>(b) Necessary facilities/equipment</b> - a table to seat 5 participants (or more tables if you have 5 more participants), at least 5 envelopes with the broken pieces distributed accordingly.</p>
Contact (name and email)	<p>Elizabete Loureiro</p> <p><a href="mailto:emfl@med.up.pt">emfl@med.up.pt</a></p>
List of tool files	loureiro_groupdynamics_english_241013

## **Broken Squares General Instructions for Facilitator**

The facilitator may wish to begin with a discussion of the meaning of cooperation; this should lead to suggestions by the groups of what is essential in successful group cooperation. These may be listed on the board, and the facilitator may introduce the exercise by indicating that the groups will conduct an experiment to test their suggestions. Basic suggestions that the facilitator may want to bring out of the groups are as follows:

1. Each individual should understand the total problem.
2. Each individual should understand how he/she can contribute toward solving the problem.
3. Each individual should be aware of the potential contributions of other individuals.
4. There is a need to recognize the problems of other individuals, in order to aid them in making their maximum contribution.

### **Instructions are as follows:**

1. When the preliminary discussion is finished, the facilitator chooses an observer/judge for each group of five participants. These observers are each given a copy of their instructions. The facilitator then asks each group to distribute the envelopes from the prepared packets. The envelopes are to remain unopened until the signal to work is given.
2. The facilitator distributes a copy of the instructions to each group.
3. The facilitator then reads the instructions to the group, calling for questions or questioning groups as to their understanding of the instructions. It will be necessary for the facilitator or his/her assistants to monitor the tables during the exercise to enforce the rules that have been established in the instructions.
4. When all the groups have completed the task, the facilitator will engage the groups in a discussion of the experience. Discussion should focus on feelings more than merely relating experiences and general observations. Observations are solicited from the observer/ judges. The facilitator may want the groups to relate this experience with their "back home" situations.

## **Broken Squares Instruction Sheet for Participants**

### **Instructions**

1. One member of your group will be appointed to be an Observer
2. In this packet there are five envelopes
3. Each envelope contains pieces of cardboard for forming squares
4. Each group member will receive an envelope except the Observer
5. The task of your group is to form five (5) squares of equal size
6. The task is complete when each person has a perfect square in front of him or her that is the same size as the squares in front of other group members

### **Three Important Rules**

1. Group members may not communicate with other members: no talking, no pointing, no gesturing, no signaling with eyes
2. Group members may not ask for or request a puzzle piece from another person, or in any way signal that another person is to give him a puzzle piece
3. Members may, however, give away one or more of their pieces to another member (the ideal is to give a piece to someone whom you notice might need your piece to complete his/her square)
4. You may never decline a piece that is being given to you, even if you do not think it fits to make your square

## **Broken Squares Instruction Sheet to the Observer**

### **As a judge, make sure each participant observes these rules:**

1. No talking, pointing, or any other kind of communicating among the five people in your group.
2. Participants may not take (as in “seize” or “grab”) pieces from other members, but they may accept pieces that were freely given.
3. Participants may give pieces to other group members. They must give a specific piece to a specific person.
4. Participants may not simply throw their pieces into the center for others to take.
5. It is permissible for a member to give away all the pieces to his puzzle, even if he has already formed a square.

### **As an observer, your job is to watch how the members behave during the exercise, especially behaviours that help or hinder cooperation.**

For example:

- Who is willing to give away pieces of his/her puzzle?
- Did anyone finish his/her puzzle and then separate him/herself from the struggles of the rest of the group?
- Is there anyone who continually struggles with his/her pieces but yet is unwilling to give any or all of them away?
- How many people are actively engaged in mentally putting the pieces together?
- Does anyone become frustrated or anxious?
- Was there a critical turning point at which time the group began to cooperate? How did that occur?
- Did anyone try to violate the rules by talking or pointing as a means of helping fellow members solve their puzzle?

## Instructions for Making the Squares for the Broken Square Exercise

One set should be provided for each group of 5 persons.

A set consists of 5 envelopes containing pieces of cardboard that have been cut into different patterns and, when properly arranged, will form 5 squares of equal size.

To prepare a set, cut 5 cardboard squares of equal size, 15cm. Place the squares in a row and mark them as below, penciling the letters a, b, c, and so on lightly so they can later be erased.

The lines should be so drawn that when cut out, all pieces marked A will be of exactly the same size, all pieces marked C of the same size, and so on. Several combinations will be possible that will enable participants to form one or two squares, but only one combination is possible that will form 5 squares.

After drawing the lines on the squares and labeling them with lower-case letters, cut each square as marked into smaller pieces to make the parts of the puzzle.

Mark each of 5 envelopes A, B, C, D, and E. Distribute the cardboard pieces in the 5 envelopes as follows:

Envelope A has pieces h, g, b

Envelope B has pieces c, e, e, a

Envelope C has pieces e, f

Envelope D has pieces i, d

Envelope E has pieces j, e, d, a



