Simulation/Game

GRAPHIX

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Basic data:

Objective: To improve the ability of participants to convert verbal descriptions to visual images and visual images to accurate verbal descriptions.
Target audience: Any group where communicating and envisioning shared subject matter is a useful exercise.
Playing time: 15 to 45 minutes.
Debriefing time: 15 to 30 minutes.
Number of players: Minimum of 2. Played by pairs of teams of 1 to 5 players each. Any number of pairs may play simultaneously.
Materials required: Copies of rectangular pictures (one picture per pair of teams), cut in 16 pieces.
Equipment/room setup required: A desk or table is required for each team, with real (or imagined) visual barriers between paired teams.

Description

GRAPHIX involves graphic descriptions. It is an exercise designed to help people become articulate about what they can imagine as well as what they can see and become skillful at visualizing images as a result of verbal descriptions. It is an exercise about language and perception.

Although not so much a game as a puzzle, it was inspired by Von Neumann's (1944) observation that bridge is not a 4-player game but a 2-player game in which each player has a split personality. This way of looking at bridge led to the idea that, if a puzzle were treated the same way

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by splitting up one role so that two people had to play it, and introducing a barrier of some sort placed between them so they had to communicate in an unusual manner, a very interesting exercise might result. It is extremely important not to think of this as a bonafide game in which there are at least two players competing against one another. Participants' total imagination and effort should go into cooperating and communicating, not into deceiving or competing in any way with one another.

Preparation

All that is required to prepare for the exercise is to cut a rectangular picture into, typically, 16 pieces (i.e., four columns and four rows). To the extent possible, all puzzle pieces should be cut so that they are approximately the same size and shape. Pictures so "busy" that the players cannot grasp how the pieces might fit together are not appropriate. Neither are pictures, say, of a single person in a posture such that all their "parts" are extremely easy to recognize and place.

Magazines, such as *Life, Time, Sports Illustrated*, and *National Geographic*, are wonderful sources of pictures for this game. Aerial photographs and pictures of the earth taken from a satellite are delightful. Subject matter is dependent on the interests of the participants or the purpose of the exercise director. Maps do not work well, at least if there are words on them. (Players tend to avoid all the other information available and key on things like the relative size of the letters showing in their pieces.) Color xerography and airline magazines are useful for obtaining multiple copies of a single picture.

Care must be given to how the pieces are cut. For example, cutting one easily recognizable object neatly in half makes its two pieces relatively easy to place, while cutting the picture so that such an object is contained entirely on one piece and its adjacent piece gives no clue as to its relationship to that object makes the exercise quite difficult. Since each cut separates eight pieces, it is wise to picture in one's imagination how a particular set of cuts will affect the degree of difficulty of the puzzle that will be produced. Square pictures that lead to square pieces also can make the exercise far more difficult because each one can then potentially be oriented four different ways instead of just two, as will be the case when the pieces are not squares.

Prior to play, the cut pieces should be gently shuffled and stacked face up.

Steps of Play

Participant teams should be seated so that they cannot see each other's pieces when they are laid out on a table or desk. Alternatively, a barrier that obstructs the vision of the players, so that they can only see half the pieces needed to complete the puzzle, might be used. Puzzle pieces are dealt face up to the two participants (or teams), eight to each.

The exercise then involves the two participants (or teams) talking to one another—or writing notes to one another without the right to speak to each other—in such a way that the eight pieces in front of each end up in their proper places on an *imaginary* 4 × 4 grid that represents the original picture. This requires each person to translate his or her visual information into verbal information, on one hand, and verbal information into visual information, on the other.

There is no turntaking; players are free to initiate messages at any time, to ask questions, and to describe what they think they have and what they think they need. When the partners in the game are teams, rather than individuals, the people in each team work as cohesively as they can, sharing perceptions and trying out different strategies of describing pieces and asking for information about the missing pieces. There are no visual barriers within a given team—only between two teams working together.

Once the participants are convinced that the pieces before them are properly positioned, they announce that fact, and then get up and have a look at one another's pieces.

Rules of Play

Players are not to use gestures. If they are writing, they are not to draw diagrams or pictures. Players may not turn puzzle pieces over, using information on the reverse side to help them determine proper positioning.

Under no circumstances are the pieces of the puzzle to be traded; the only thing that is traded is information about the pieces and the need for pieces with certain qualities so that participants can complete the picture in their minds.

There is no scorekeeping or other means of performance evaluation. The satisfaction at the end of the game of carrying one set of pieces over to the

other display and seeing that the two configureations fit together perfectly is the reward.

Variants

There are countless variations of the exercise. It is particularly useful as a language practice exercise. Two people who are new to a second language, English, for example, find it useful first to assemble a particular picture in their native language. Then the pieces of that puzzle are shuffled are redealt, this time to one English speaker and one of the speakers of English as second language who has just finished working the puzzle. (This is a good example of why it helps to have two identical puzzles so that each of the two nonnative English speakers can be paired with an English speaker and participate immediately without waiting for one pair to finish the exercise.)

Although each nonnative English speaker is at a disadvantage in language skills compared to the English speaker with whom he or she is paired, each has the advantage of just having solved the puzzle (albeit with a different distribution of pieces). In a number of trials, this has given them extra confidence and made it easier to practice their English. It is especially helpful if the pictures are scenes from the country from which the nonnative English speakers come.

The principle of cutting pictures into 16 pieces and distributing them to just two people (or teams) can also be varied. For example, the exercise has been run with a group of 16 people—8 were Afro-American and 8 were White—in an effort to explore the interplay of race, perception, and language. A picture involving material that was sensitive from a racial point of view was cut into 25 pieces (i.e., five rows and five columns). The pieces were distributed six each to four groups of 3 participants each—with one piece left out just to make it that much more difficult. One group included 1 Afro-American and 2 Whites; another, 2 Afro-Americans and 1 White; another, 3 Afro-Americans; and still another, 3 Whites. The remaining 4 participants were assigned the task of monitoring the performance of the four groups, watching for things which the groups had in common as well as their differences. Who interacts with whom? Are there differences in the way people talk to each other that might be traced to race? Does the language used seem to influence perception?

Members of paired teams can be dealt pieces individually. Individuals having "their own" piece(s), which they may or may not choose to fully

integrate with the team's other pieces, can add an interesting process dynamic to the game. (A team that knows one another well may choose immediately to share all pieces among the team.)

The exercise can serve as a "core" exercise to drive games having all sorts of additional objectives. It has been used, for example, to develop a game that dealt with the role that different office layouts and different principles of organization have on communications within companies. It is extremely easy to customize for different clients by varying the nature of the pictures to deal with their areas of interest or expertise.

Debriefing

In the basic exercise as given, debriefing questions are simple and direct. How did you proceed? Were there any problems along the way? Why? What did you do about them? Were you ultimately successful? Why? Why not? How would you do it differently next time? More specific questions pertaining to communications and group process might also be useful.

In cases where a picture specifically pertinent to the overall purpose of the participants is used, debriefing questions may focus more directly on the usefulness of the information in the picture itself. For example, in a history or geography class, students might be asked how knowing the terrain, culture, flag, religion, or time period related to the picture's subject had helped them in solving the puzzle.

In the instance where paired groups of participants are dealt pieces individually, the issues of uniqueness, diversity, and individual versus team agenda can come into play. (Such issues may be of little interest if the team decided immediately to share all pieces.) Questions surrounding the relative value of the individual viewpoint (i.e., each piece) to the total group perspective may be useful. Done in this fashion, the exercise graphically points out how we each come to every "puzzle" situation with our unique "piece" to communicate.

Reference

Von Neumann, J. (1944). *The theory of games and economic behavior*. Princeton, NJ: Princeton University Press.

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