

# Design a game to learn about sound

[This could be done with a class of middle-school children. The objective is to learn how to design an educational game, to learn something new about sound through game playing, and to learn to work cooperatively in groups.]

Divide the class into groups of 5 students.

Give each group a set of 5 glasses, a jug of water, and a few spoons.

Ask each group to design a game in which the players will learn something about sound as they play the game.

The group will be assessed according to the following criteria [5 points for each]:

(1) How well did everyone in the group cooperate?

If one person does not participate, all members of the group will get reduced marks.)The teacher will assess this by walking around the room observing what is going on as the groups work.

(2) Is the game sufficiently easy to learn, interesting, fun, and not too lengthy?

(3) Do the players learn something new when they play the game for the first time?

Everyone in the group will get the same marks.

After each group designs their game and tries it out, each group will come to the front of the class and teach another group how to play the game. That group will play the game while the rest of the class observes. Then the class will rate the game on criteria (2). The students in the group who played the game will list what new things they learned by playing the game and the teacher will use this to rate the game on criteria (3).

This activity could also be used in teacher training sessions. In that case after the groups of teachers have designed their games, a group of students could be invited in, and each group of teachers could teach them to play their game. The rest of the teachers could watch and evaluate the game on criteria (2). The objective of using this activity in a teacher training session is to learn how to design an educational game, to give an example of teaching a class by dividing the students into groups, and to show an example of a new assessment strategy. At the end of the session, the teachers can discuss whether and how the activity has helped them achieve these objectives.

Note: Before conducting this activity with children, the children need to be told certain rules and procedures for group-work. There are many ways this could be done. For example:

Each group may have a group leader. The group leaders are the ones who will go ask the teacher questions, in case any procedural questions arise that none of the students in the group can answer.

The students are to make sure that they clean up after themselves and return all supplies and equipment to their places at the end of the class. One student in each group can be in charge of making sure that this happens.

All students should try to make sure that all students participate. Students should observe whether everyone is participating, invite anyone who is not participating to do so, and limit their own participation in order to make more space for others.

Students should understand that the aim of group work is for all students to discuss, ask each other questions, and try to answer each other's questions. This needs to be explicitly discussed from time to time.

In addition, the teacher should set some basic rules which apply at all times, such as: students should not harm themselves or each other, students should not damage things, etc.