Lesson Plan: JUGGLING

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Subject: P.E.

Title : Lesson	**Time : 3 SESSIONS OF 50 minutes**
Subject : JUGGLING IN P.E.	
Aim: Juggling is a physical skill which consists in keeping one or several objects in continuous motion in the air by tossing and catching it.	
Key CS elements: decomposition, pattern recognition, abstraction, algorithm design	
Age group : 1st year: 12-13 years old.	
Learning situations: playground	**Activity type :**
Resources : home- made pins/balls(balloons, rice, scissors), students' body	

Learning development:

The aims of the lesson are:

- Develop segmental coordination;
- Encourage playful activities using cooperative group games;
- Improve the performance of alternative or dissociated simultaneous movements;
- Acceptance of different levels of ability and dexterity;
- Be able to make juggling balls.

1. Decomposing: (descomposición) Análisis de lo que queremos hacer y descomposición en partes o estructuras más pequeñas que faciliten la realización de la actividad.

This part can be divided in 2:

- one part devoted to the creation of the juggling balls.
- one part devoted to gaining the ability to play with the balls.

In the first part, making juggling balls, the students, by using the technique of brainstorming, share different ways of making balls. The teacher helps them by providing photos and videos explaining how to make juggling balls with materials they can find easily. They decide to use: balloons, some rice to fill them and scissors.

In the physical part, the students have to juggle by using the balls in the correct way, which means throwing upwards, catching them again and different combinations. To be successful, students have to practice during the lessons to get a good mark for it.

2. Pattern recognition: (reconocimiento de un patrón)

Qué estructuras o ideas son repetitivas o comunes para facilitar la tarea.

Once the equipment has been created, students start practicing different movements with the juggling balls.

Juggling requires continuous focus and concentration on the task at hand.

They all agree that the more difficult the exercises are, the more coordination and concentration they need. Besides, some exercises entail throwing the balls higher so that you have more time to perform the task correctly.

As they start from the easy exercises to the most difficult ones, they learn that getting a good mark requires a lot of practice.

3. Abstraction:

Regarding abstraction, we think we should take into account both processes involved in this lesson:

- creating the balls.
- do the performance.

For the balls:

All students agree that these balls should share some characteristics:

- they must fit everyone's hands: if they are two big, you cannot handle them properly and you drop them. It is also important to consider their weight: if balls are too light, they might not reach a proper height or you have to throw them harder and it may cause you lose concentration or even balance. And also, dropping heavy objects may hurt your toes. So, it is important that each one makes their own equipment (balls) in order to have the best ones for the activity's success.

For the physical activity itself:

To perform the task in the correct way we need:

- Co-ordination between the sight - such as seeing the balls/pins - and movement - such as moving your hands accordingly to juggle.
- Keep their own body balanced well; when the ball is thrown too high or too low, students have to be ready to adapt their position when catching the ball.
- Be aware of their surroundings: when correcting their position by moving up, down, backward or forward or moving to the left or right.

4. Algorithm design:

We start with the assumption that the balls have already been made and the students have to focus now on how to make a good performance:

1. They start playing with one ball only:
    a. throwing the ball upwards and catching it again.
    b. passing the ball from one hand to the other.
    c. throwing the ball from backwards to front and catch it: first with the same hand and later with the other hand. This force us to throw it a little bit harder and we need to be accurate enough, so that we don't drop the ball.
    d. throwing the ball from the front to our back (as mentioned above)
2. Now, they have to use two balls.
    a. throwing both balls upwards at the same time and catch them.
    b. throwing both balls, crossing them, and changing hands.
3. Finally, they use three balls to get a higher mark.
    a. throwing the balls, by having one in one hand and two in the other. They start throwing one to the air and moving the others from one hand to the other.

As this last stage is the most difficult one, maybe the algorithm design may concentrate in it, rather than in the whole process.

So, the different steps could be

1. First, hold 2 balls in your right hand and 1 in your left hand (vice versa if you're left handed).
2. Begin by tossing a ball from your right hand (again, vice versa if you're left-handed).
3. Throw the ball to your left hand and when ball 1 is at the peak, throw ball 2 (the only one in your left hand) under ball 1 to your right hand.
4. Catch ball 1 before ball 2 reaches its peak.
5. When ball 2 is at the highest point, throw ball 3 under ball 2.
6. Catch ball 2 before ball 3 reaches its peak. Then, toss ball 1 when ball 3 reaches its highest point and repeat. This technique is called the "3 Ball Cascade."

Assessment:

Expected results: After 3 sessions, most students will get familiar to the technique and they will easily juggle with at least 2 balls. Some of them will also manage to do it with 3 balls at a row.

Notes:

The making process of balls is carried out at home, after the teacher explains how. They can have their parents involved in the task because 2 people are needed to do the balls.