Juku – Private tutoring school

Children make friends at a school, and learn things at a juku.

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Abstract

School education has been done according to the guideline of MEXT (Ministry of Education, Sports, Science and Technology). School teachers must give children lessons including limited contents in the limited time according to the MEXT guideline. The lessons tend to be tedious. After school, children go to a juku. Some children who cannot well keep up with the school lessons go to a juku to take remedial education. Others who can keep up with the school lessons go to a juku to study further information. Anyway juku is a function of private tutoring. Juku is kind of ideal education free from the MEXT guideline.

I will show you some scientific experiments which I done at a juku. Take an instance, a fruit battery, a paper-made baking machine, astronomy in computer etc.

Introduction

At a juku, I showed children (elementary school pupils) some experiments, including virtual experiments on PC. A juku teacher is free from the the guideline of MEXT (Ministry of Education, Sports, Science and Technology).

I will show you some scientific experiments which I done at a juku. Take an instance, a fruit battery, a paper-made baking machine, astronomy in computer etc.

1. Fruit Battery

This is a battery composed of fruit. This system has some advantages. It is very cheap. It is easy to handle with. It is very safe, because a high voltage is not used.

This is a volta battery. Copper plates and zinc plates are used. We can just obtain the low intensity of the current, but an LED (light-emitting diode ) enables us to confirm the line is live (the current is on). When we confirm whether the LED is on or off, the darkness is needed.

Children are very glad to see this experiments.

Figure 1. A fruit battery.


The next experiment is very, very dangerous, because a high voltage (about 100 voltage) is used.

First, I made a backing-machine box of a
milk package. Second, I prepared electrode plates. This time, I used aluminum. Third, I got wheat flour and water into the backing-machine box. At last I turned the current on. I must be very careful. If children touch the box, they may be daed.

When the current is on, electrical resistance give rise to heat. The baking powder in the wheat flour is exploded by the heat.

Children are surprised at the phenomena.

Figure 2. A paper-made baking machine

3. Astronomy on PC

Many Japanese children living in cities and the suburbs cannot see stars, because the sky is too bright on account of the city lights. Many children cannot help experiencing the starry sky on the PC.

Children are used to using a GUI system computer. So it is not difficult for them to deal with the computer. They can enjoy the virtual stars.

If I can show children a real experiment, I am supposed to do it. If I can barely show children a real experiment, I do it with a PC. A computer is just an alternative. That is very important.

Figure 3. Astronomy on PC. This software is made by Dr. Sakka with Kyoto Computer Gakuin. This screenshot has been permitted by him.

Summary

Japanese juku is very various. You can find the new side about Japan education.