

Kyouiti Sugiura ¹

Hamana junior high school teacher in Shizuoka, Komatsu 467 Hamakita-ku Hamamatsu Shizuoka 434-0042 Japan ¹

e-mail: kyouiti7sugiura@yahoo.co.jp

Shinya Ikeya ¹

Principal Hamana junior high school in Shizuoka, Komatsu 467 Hamakita-ku Hamamatsu Shizuoka 434-0042 Japan ¹

Takaya Tanaka ²

Teacher Hamamatsu Junior High School Attached to the Education Department of Shizuoka University, 3-2-2 Nunohashi Naka-ku Hamamatsu 432-8012 Japan ²

Yosuke Kominami ²

Principal, Professor Faculty of Education Shizuoka University, 3-2-2 Nunohashi Naka-ku Hamamatsu 432-8012 Japan ²

Kei-ichi Muraki ³

Hamamatsu Gakuin University, 3-2-2 Nunohashi Naka-ku Hamamatsu 432-8012 Japan ³

Hitoshi Yamamoto ²

Specially appointed professor Faculty of Education Shizuoka University, 3-2-2 Nunohashi Naka-ku Hamamatsu 432-8012 Japan ²

A transmission of science education

Previously, teachers in Hamamatsu Shizuoka Japan have made many creative teaching materials to utilize for classes. But, as time goes by people lose these teaching materials and the teaching methods because they aren't handed down to the next generation. We suppose that the teaching materials and the teaching methods rise from the dead and that we reactivate group-trainings for classes. For teachers, preparations for preliminary experiments, proficiencies in making materials, and teaching are the most important things. Teaching efficacy depends on the teaching material. On the other hand, teachers are extremely busy with student counseling and guidance, and they have insufficient time to prepare for classes. In Japan we have training for newly hired university graduates and in-service teachers. In the training sessions, teachers learn how to conceptualize classes and to construct them. But the coverage of science is nature. We need to make students feel a sense of wonder in the eloquence of nature, and a sense of awe. It is essential to hand down information to the next generation to raise the ability of teachers. We make in-service teachers utilize our resources. In particular we are changing the proficiency of making materials, and teaching to PDF files. These files contain pictures and explanatory leaflets for utilization by in-service teachers at any time. We put the PDF files on a website. Additionally, we hold a training workshop by experts (two or three times in a term). We report the process to rise materials and methods from the dead.

The characteristics and purpose of this research, and the expected results are as follows:

1 We define Junior-high school belonging to a university as a point of union between public junior high schools and university. This part is a significant property of this research. In the past, trainings of in-service teachers' science-education was active. We would aim to share the intellectual properties and to reactivate trainings of in-service teacher in cooperation with a university.

2 Teachers would seize back confidence of teaching and would care about one another through talking with daily distress.

3 The community-minded cooperation would offer a clear-cut answer for issues of in-service teachers.

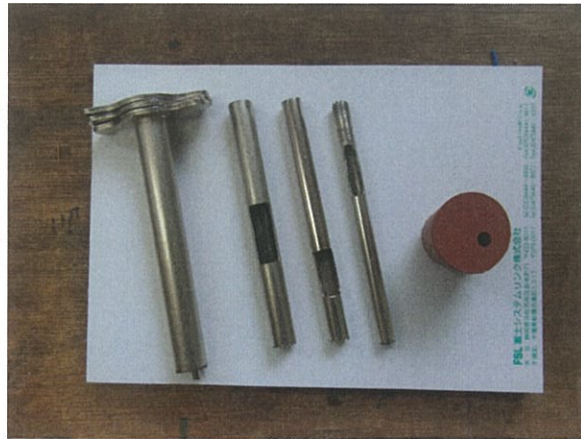


FIGURE 1. Device that bore a hole in rubber closures.



FIGURE 2. We utilize a vacuum to move materials across a course.

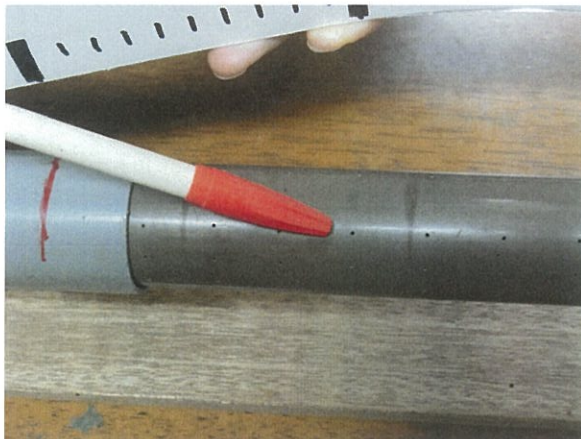


FIGURE 3. A slider moves uniformly by the blast of air.



FIGURE 4. A dial shows the velocity clearly.

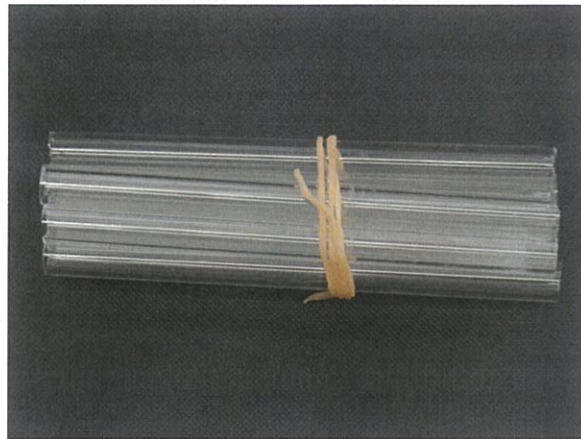


FIGURE 5. Narrow tubes that aren't slim at the forefront.



FIGURE 6. Sideways view.

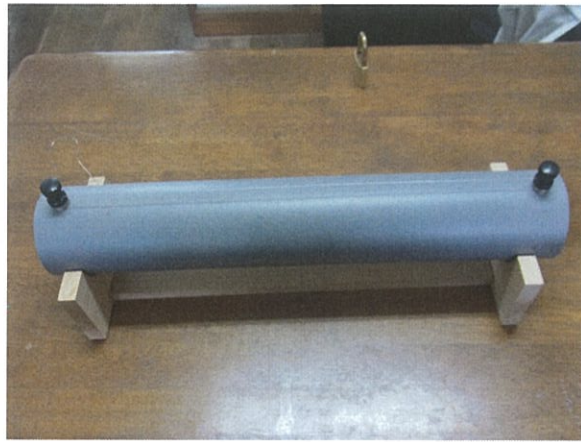


FIGURE 7. A monochord.



FIGURE 8. Sideways view.

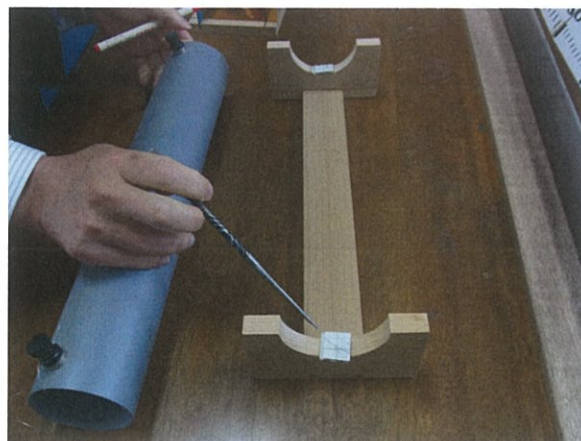


FIGURE 9. The piece of paper increases the sound.

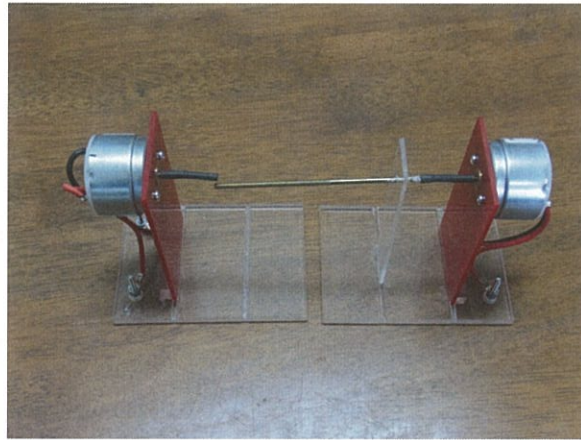


FIGURE 10. The motor generates electricity.



FIGURE 11. A heating wire that wouldn't stretch because of a thin strip of bamboo.



FIGURE 12. Push button switch.

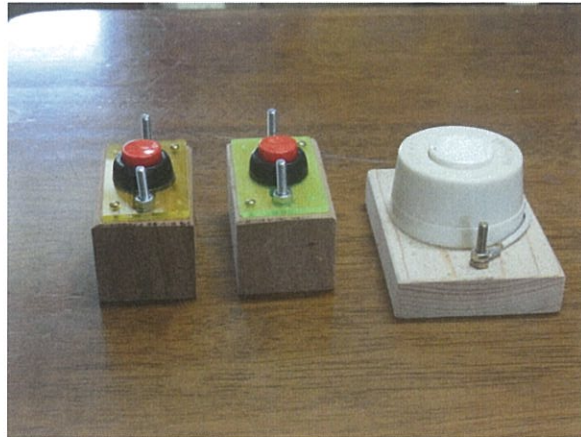


FIGURE 13. Sideways view.

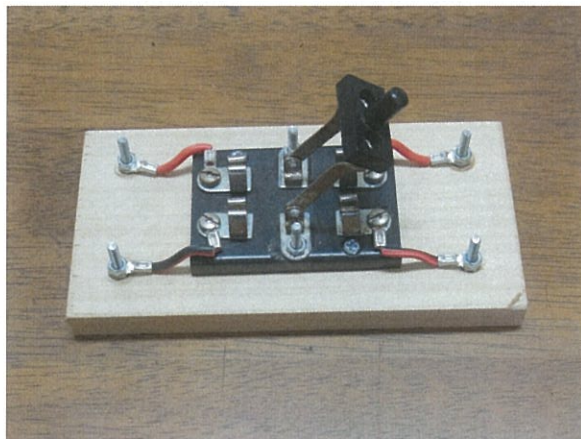


FIGURE 14. A hand made switch.



FIGURE 15. A simple galvanometer.



FIGURE 16. A device that bores holes in rubber closures.

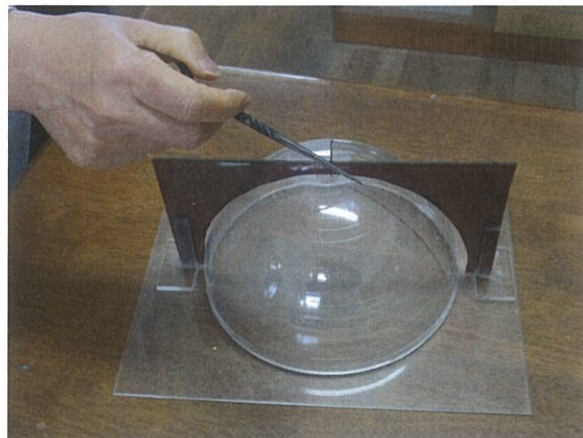


FIGURE 17. A device that draws a meridian on a transparent hemisphere.



FIGURE 18. The lighting system of a microscope.