ON JAPAN'S WAYS OF SCIENCE COMMUNICATION

WatanabeMasataka
The National Institute of Science and Technology Policy, MEXT, JAPAN

Abstract

We need to improve the public awareness of science and technology to solve many of the problems we face today. The major challenge is that people are indifferent towards science and technology. Of course there is good and bad to science and technology. It can be a poison it can be a medicine. However, the most important thing is to make as many people as possible to become interested in and attracted to science and technology and we have to think about how to do that. There may be several ways to attain improving it. We have tried some Japan's ways of science communication.

Keywords: Science Communication, Sophisticated Science, Idobata-Dialogue

1. Introduction

In every aspect of our daily life, we enjoy the benefit of state-of-the-art science & technology. However, the result of TIMSS-R of "the third international survey on mathematical and science education", conducted in 1999 for junior high school students in 38 countries, shows that, although the grades of Japanese students (8th grade) is in the top group both in terms of mathematics and science, regarding the questions on whether or not they liked these subjects, the ratio of those students who answered "yes" was ranked among the lowest group [1]. "The study on implementation of educational curricular" conducted in December 2002 by the National Institute for Educational Policy Research in Japan also revealed that the number of students who liked science decreased as their age went up [1].

Provided we live in the era when we cannot do without benefits of science & technology, we should pay attention to the direction science & technology (S&T) are seeking as well as enjoy their benefits to the maximum. However, the level of interest in information on S&T among the Japanese (over 18 years old) has been generally decreasing over the past 28 years (Fig.1). This information is based on public opinion surveys conducted about every five years as well as surveys conducted by NISTEP. The line shows the percentage of respondents that indicated an interest in S&T, while the broken line shows the percentage that indicated a lack of interest in information on S&T. As you can see, interest was at its peak when the survey was first conducted in 1976. It fell until 1986, when it began to rise again, but then fell again in the most recent survey. In spite of the fact that four Japanese scientists have won the Nobel Prize in the past six years, the level of interest in information on S&T fallen.

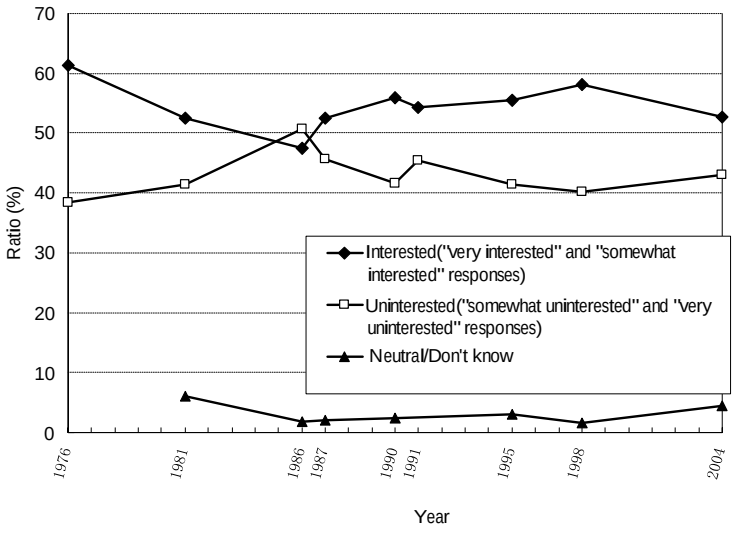

Figure 1. Level of Interest in Science & Technology information among Japanese
From polls conducted by Prime Minister's Office in 1976, 1981, 1986, 1987, 1990, 1995, 1998 and 2004 (1976-2004) and NISTEP (1991)

Of particular interest is a breakdown of the respondents by age. As shown Fig.2, the level of interest changes over time as people age from their 20s to their 70s and older. In 1976, people in their 20s reported the highest level of interest in S&T. Over time, that group's interest has waned. Now it is the age group with the lowest level of interest in S&T. Today, it is people in their 50s, 40s, and 60s who have the highest levels of interest in S&T. However, even among these groups we see that interest among those in their 50s and 40s has fallen over the past six years (the reason there is no data for people aged 70 and older in 1976 and 1998 is because they were included in the 60 and older age group in those surveys).

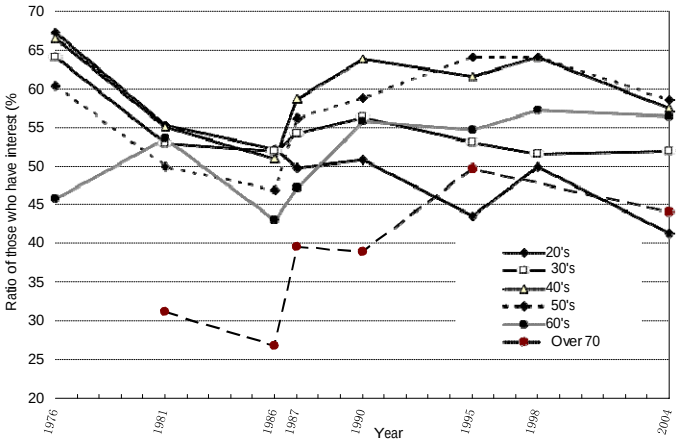

Figure 2. Transition of interest in information on S&T by age
"60's" includes "more than 70" in 1976 and 1998. Source is the same with Figure.1.

Such a tendency among the age groups is the reflection of the general decreasing interests for S&T in later generations. Fig.3 is calculated from the same data with Fig.1 and Fig.2 by sorting out groups in ten years intervals. It is obvious that younger generations have much lower interests for S&T than older ones. However the reason of it is not clear, we have to do anything that can raise people's interest and awareness for S&T in Japan.

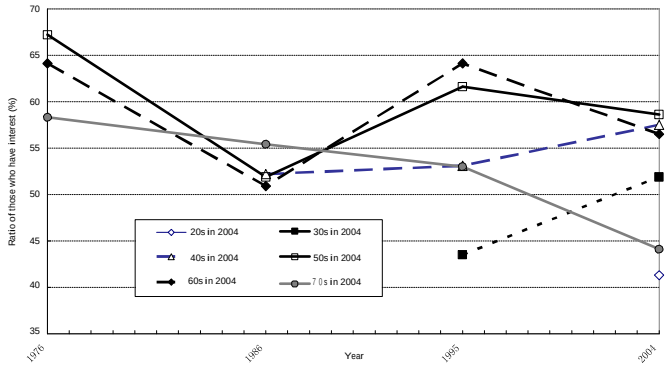

Figure 3. Transition of interest in information on S&T by generation
Calculated from the data with Figure.2 by sorting out the group in ten years intervals.

2. Science Communication Strategy in Japan's Way

We need to improve the public awareness of S&T to solve many of the problems we face today. Merely providing easy-to-understand information is not enough in order to solve these issues. An approach that makes S&T feel more familiar to people is required. In short, in addition to the recognition that "S&T is useful," and "science is basically interesting," we feel that it is important to actively push the viewpoint that science is both fun and beautiful. However, promoting the idea that S&T is interesting and fun is in itself also insufficient. We need to nourish an environment in which technological topics, including their good and bad points, are talked about on an everyday basis. This is the goal toward which scientific communication aspires. If we think of these activities aimed at promoting how interesting and fun S&T can be as the "foothills" of scientific communication, or in other words activities to "reduce the size of the group with little interest in S&T," then later scientific communication activities could be called the "mountainside"(Fig.4).

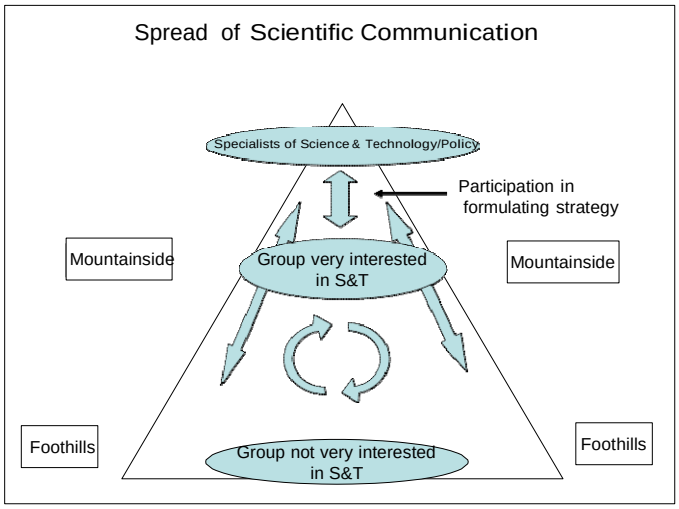

Figure 4. Spread and convection of science communication

There may be several ways to attain improving it. For example a scientific café is supposed to be an effective way to dialogue about hot issues of S&T. But in Japan we had not such a culture as a café in western culture. Therefore we need to invent a new way of dialogue. In Japan's culture we have had a Japanese way of dialogue. It is Idobata Dialogue (Well-side Chat). Idobata Dialogue means having a friendly gossip with neighbors around a common well. It must be easier to dialogue in such a situation than in a café, though Idobata is a metaphor. We tried to set up the Idobata Dialogue in collaboration with some art school students at the international conference of UNESCO International Bioethics Committee held in Tokyo November 2005 (Fig.5). It was a small meeting space and we prepared some basic data about bioethical issues and a model of "well" and we had a good reputation.

Figure 5. Idobata Dialogue at an international conference of bioethics in Tokyo

3. Sophisticated Science

Another challenge to improve people's interest in science and technology is to make science sophisticated or artful. In general when we talk about science we tend to think of it as very dry. But in a many aspects science is rather sophisticated or it has a lot of beauty in it. So it must be one of effective ways to disseminate the joy of science to the general public to show them "Sophisticated Science" or "Artistic Science" and gain general acceptance the science as a part of culture.

We have challenged some trials to promote Sophisticated Science. For example, we put on a small exhibition at a public space in a posh area of Tokyo. For the exhibition some young artists created art works inspired by scientific studies about mitochondria and deep sea geology.

4. Conclusion

We are proposing two ways of science communication to make science a part of Japanese culture. One of them is to produce Japan's traditional public space "Idobata Dialogue." Another one is to present scientific studies as art works. They have got good reputations in our trials.

5. References

[1] NISTEP, "Science and Technology Indicators: 2004," NISTEP REPORT No.73, 2005.