

Making Brochure and Original Goods in the NAOJ Nobeyama Campus

Makiko NISHIOKA¹, Kenzo KINUGASA¹, Hiroshi MIKOSHIBA¹, Kazuhiko MIYAZAWA¹, Noriyuki SHINOHARA¹, Hidemi IDE¹, and Masao SAITO¹

1 Nobeyama Radio Observatory. makiko.nishioka@nao.ac.jp

Nobeyama Radio Observatory (NRO) has made the campus accessible to the public since inauguration of the observatory in 1982. The campus has about 60 thousands of visitors for a year in the past several years. Visitors consists of various age groups and have various interests in Astronomy. We distribute NRO brochures for Adults and Children to match the age of visitors in order to make them get familiar with the radio astronomy. Last year, we made a full revision of the two types of the brochures. In particular, the brochure for children was designed in cooperation with the two local elementary schools. Furthermore, we produce NRO original goods for promoting the public relations activities. We distribute a few kinds of original goods to visitors at the time of events, such as Open House Day, and to researchers and students at workshops or training programs. We introduce concepts and procedures of our brochures and goods.

1. Introduction

Nobeyama Radio Observatory (NRO) has made the campus accessible to the public since inauguration of the observatory in 1982. The campus has about 60 thousands of visitors for a year in the past few years. We ask the visitors to guide the campus by themselves. In order to understand NRO and radio astronomy well, we distribute two types of brochures as their ages. Moreover, we make some original goods of NRO as a reference for special guide tours, the Open House Day, and so on.

2. Making Brochure

The last NRO brochure was issued in 2010. Its contents became more different from current status with the time. The closing of the Nobeyama Solar Radio Observatory was an opportunity to make the brochure better. The better brochure makes children become more familiar with NRO and Astronomy. At first we tried to know what children know about Nobeyama Radio Observatory (NRO) and what they want to know in order to incorporate answers to these question into the new NRO brochure. Making brochure starts from answering the question “what are we doing in NRO?”

2.1. Concept of Brochure for Children

We summarized the concepts of brochure for children as follows.

- Easy to understand! Looks interesting!
- It is based on the questionnaire.
- We use original characters, Dr.Nobeyama and a boy Nao-kun (Fig.1). Story goes with their Question & Answer. Questions are picked up from the questionnaire.
- We reduce sentences and increase images.
- We avoid technical terminology as possible.

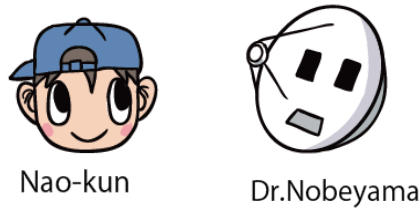


Fig. 1 NRO original characters, Nao-kun and Dr. Nobeyama.

● Collaboration with local elementary school

- We sent out questionnaires to know how well they know about NRO and the Universe.
- The opinions of elementary school teachers are important. We picked them up into new brochure.

For example, we put balloons “Nobeyama is great !!” according to teachers opinion. It increased feeling of NRO.

- We held a presentation ceremony in the school after brochure was completed (Fig. 2).



Fig. 2 Presentation Ceremony at the local elementary school.



Fig. 3 Brochure titled “Explore! NRO” for children of 7 to 15 years old.

2.2. Questionnaire to Local Elementary School

We asked the following questionnaire to students of the local elementary schools. We summarized the answers and/or some information from them.

1) Have you ever visit NRO?

- High percentage of 3rd, 4th, 5th-year students have visited NRO.
- Their most common impression is that the 45-m telescope is very big”.

2) What do you know about the Universe?

- The solar system, vacuum, the sun and the moon, black hole and so on.

3) What do you want to know about the universe?

- Stars (number, weight, etc.)
- Black holes
- Nature of the Universe (temperature, color, vacuum and gravity, etc.)
- The end and beginning of the universe.
- Extraterrestrial life (alien and UFO)

4) What do you want to know about NRO in detail?

- Structure of the antenna (What is power source? What is inside? How does it collect radio waves?)
- Radio waves (How does it reach here?, How far does it reach?)
- Antenna (Why/When/How did we make the antenna? Why is it so big? How much does it cost?)

2.3. In-house Making

We produce the NRO brochure and goods by ourselves. The in-house making means that we continue to plan and make until artworks are completed. We outsource printing process only. We make materials in-house because the time to explain our ideas and the cost are less than the case of outsourcing. Now we illustrate our workflow (Fig. 4). Advantages, and disadvantage of our making style are listed as follows.

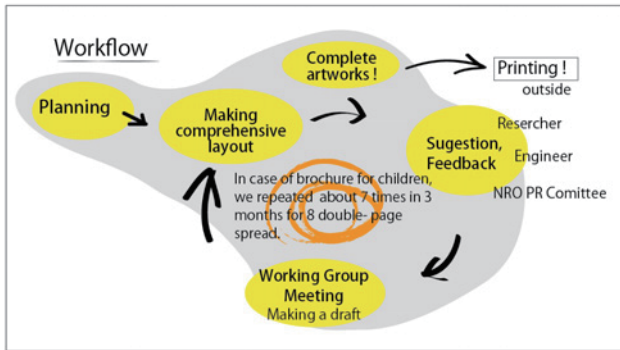


Fig. 4 Our workflow of making materials

• Advantages

- Smooth communication
- Quick response
- Easy to revise and renew
- Able to reflect the most recent research results.

• Disadvantages

- Common and objective opinions are so poor that the contents are too professional for the public to see.
- Mannerism

3. NRO Original Goods

We also produce NRO original goods for promoting the public relations activities. We produce a few kinds of goods in a year and distribute to visitors at the time of events, such as the Open House Day, and to researchers and students at workshops or training programs.

3.1. *Concept*

We summarized the concepts and the objective of the NRO original goods as follows.

- 1) Educational
To explain radio astronomy simply
- 2) Useful
For using and seeing it everyday
- 3) Cost
To distribute freely
- 4) Good design
To be impressed with the contents and our works
- 5) Impact
To attract attention and inspire interest in our works
- 6) PR

As a PR tool of our works such as research results, equipment developments, and so on.

3.2. *Goods List*

We introduce our original goods in Fig. 5–9.



Fig. 5 Clear file: focus on our new receiver FOREST. This is the first time to focus on receivers. It has good cost performance.



Fig. 6 From top left: Greeting card, Memo pad, and Strap. Middle: Scale for kids (illustrating radio waves and difference of wavelength on the one side, and comparison of the size of 45m telescope and other telescope, building, animal, etc. on the other side) Bottom: Hologram sticker (radio image and visible light image of the Orion), USB memory, Pin -badges and Ballpoint pen.



Fig. 7 Calendar: focus on radio image taken in NRO. We distribute it to the locals.



Fig. 8 Cotton bag, Plastic case, and Tenugui made for NRO's 30 years anniversary.



Fig. 9 Caps for stuff at the open house day.



Fig. 10 The original character, Dr. Nobeyama. Headdress for the events.

4. Summary

We produce the brochure and the original goods to use PR activities mainly for visitors. Recently, we revised two types of brochures at the closing time of Solar Radio Observatory. Especially, the revised brochure for children was designed in cooperation with the neighboring elementary school. The brochure becomes more familiar for children by the cooperation. Such as in-house making, we make some efforts to introduce NRO and unseen radio astronomy for many visitors.