

Tekutoko Shinshu

~Let's learn about climate change and natural disasters by walking~

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1. Activities

- Regular astronomical observations
- Explanation of the Mt. *Nyukasa* Excursion at the 42nd National Senior High School Cultural Fair
- Questionnaire regarding education of earth sciences (for elementary and junior high schools in *Nagano Prefecture*)
- Planning and participating in the Ice Age Exploration Group (hosted by the Lake *Nojiri* Excavation and Research Group and the Lake *Nojiri Naumann's* Elephant Museum)
- Participating in events regarding earth science hosted by *Shinshu University*
- Explanations at the *Nagano City Active Fault Walk* (hosted by the Faculty of Science, *Shinshu University*)

2. Problems Encountered Through Activities

During the aforementioned activities, we have learned that there are remnants of fault line activity and damage caused by previous earthquakes in areas close to where we live, and strongly felt that earthquakes and the following disasters can occur. Moreover, by going around on foot, we were able to learn by experiencing the changes and origins of the landscape, and found it more understandable and interesting than just learning from books.

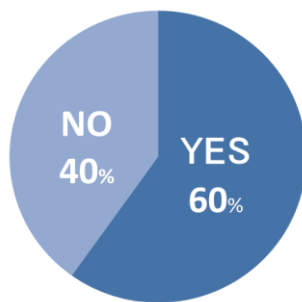
Through these activities, we have found that people are lacking in awareness of disaster prevention and geological knowledge of the land, compared to the risks of disaster.

However, it is difficult for adults to become interested anew in disasters and their prevention. Therefore, we thought that it is important to have children be interested in the topic. With that and our previous activities in mind, we began to reflect how we can get children to be interested.

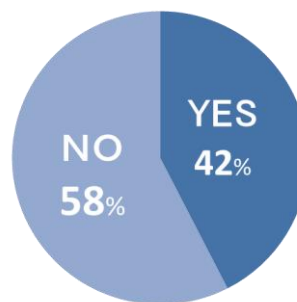
3. Reflections of Activities

3.1 Results of Questionnaire Regarding Education of Earth Sciences (Implemented in 2018)

Are you interested in disasters and prevention?



Would you like to participate in excursions related to geology and disasters?



Graph 1 Result of asking 125 fifth grade, 675 eighth grade, total 810 students in Nagano Prefecture

Judging from the pie graph above, we can say that the proportion of students willing to participate in excursions is small, compared to that of students who are interested in disasters and prevention. In other words, there are some students who would not like to participate in excursions, even if they are interested in disasters and prevention. We have considered the reason of the fact to be that the students cannot find meaning in the excursions and/or related activities in school, or do not find them enjoyable.

3.2 The Nagano City Active Fault Walk (Held on Nov. 3rd, 2019)

We went around the community on foot, and observed the landscape and the remnants of damage by previous earthquakes (Fig. 1). It was easy to understand the changes in the terrain. Earthquakes and the damage that they can cause felt so familiar to us.

However, due to words such as “active fault”, and “disasters” being frequently mentioned, the participants having to apply in advance, and the event being a walk while listening to a lecture, there were problems such as:

- No participants who are not interested
- Few children participating
- Expert knowledge being difficult to understand
- Participants losing the initiative



Fig. 1 The Nagano City Active Fault Walk
Hosted by: The Faculty of Science,
Shinshu University
Location: Nagano Senior High School,
around Zenkoji Temple
Guided by: Students and Teachers of
Nagano Senior High School

4. Ideas for Events to Get Children Interested in Disasters and Prevention

We have found from the questionnaire results that children do not find excursions to be enjoyable. However, excursions have the benefit of leaving stronger impressions in your mind, because of being able to experience things yourself. Accordingly, we began to consider the essential elements of events that will help many people participate in excursions.

First, we considered the importance of making the event easier to participate, for the *Nagano City Active Fault Walk* failed to gather many participants, because they had to apply in advance.

Then, we thought it important to have those who are not interested in the topic participate, in order to increase the number of participants. Words such as “disasters” and “disaster prevention” are usually included in the event title, but many people may be interested in the event if these words are not emphasized too much.

Moreover, we thought it effective to create opportunities, for those who are not interested, to interact with information related to disasters and prevention without acting spontaneously, so they can have interest in said topic.

Elements that will make events easy to participate in:

- Holding them with other events
- Requiring no applications, in order to let anyone participate
- Holding them regularly
- Holding them several times a day, so that people can participate anytime
- Giving prizes of participation (items related to disasters and prevention, such as emergency meals)
- Getting participants involved by holding an emergency meal cooking class, etc.

Elements that will make events enjoyable and easy to understand:

- Activities which the participants can independently work on
- Using models, figures, pictures, etc.
- Making it visually easy to understand (using computer graphics, virtual reality, etc.)
- Presenting geological characteristics of the event location
- Conducting quizzes and stamp rallies

Strategies to interact with information without spontaneous action:

- Spreading information about disasters and prevention, by making announcements over public-address systems
(e.g.) Damages caused by previous earthquakes in the area, and predicted damages in said area
- Putting information on monitors and bulletin boards in stations and busy streets
- Installing spots for *Pokemon* to appear in the smartphone game *Pokemon GO* in areas where changes in the terrain and/or remnants of damages from previous disasters can be seen.

5. Conclusion

Those who were originally not interested in disasters and prevention may have interest in the topic by holding enjoyable events about said topic, or creating opportunities to interact with information about it

without spontaneous action. Moreover, if we are able to let children have an interest in disasters and prevention, information about the topic will spread to friends and family, enabling many more people to have an interest in it.

6. Future Plans

- Planning and holding an event which is easy to participate and understand for children by ourselves
- Conducting a survey regarding disaster prevention
- Increasing the amount of knowledge that we have