



# Using sound to control birds and animals



## ~Using sound to stop deer damage to crops.~

Members: Shunya Iwata Matudo Kosuke

### 1. Background of the research

Yamanashi has always had a high percentage of forest area and a large number of birds and animals, so damage caused by birds and animals has been a problem. In recent years, the damage caused by birds and animals has been decreasing, but today, the damage caused by birds and animals in Yamanashi is becoming more serious due to the activities of "Ryoyukai" and the decrease in the number of farmers.

In fact, when we interviewed farmers about the damage caused by birds and animals, we found that they were being damaged by deer and other animals and birds. And the damage caused by birds and animals influent the decline in farmers' motivation to farm, and the increase in abandonment and abandonment of farming.

Looking at the damage caused by different birds and animals nationwide, deer are the most common, accounting for about 30% of the total damage. Deer are also responsible for 70% of the total area of damage and 80% of the total amount of damage.

So, we decided to focus on deer in our research on damage caused by birds and animals.

### 2. Purpose and importance of the research

To reduce the damage to crops caused by deer in Yamanashi Prefecture. (2021/12/7)

→To contribute to the improvement of crop yields and the decreasing trend of the number of agricultural workers. (The average price of electric fences is 32,000 yen per 100 meters, plus the cost of posts and electricity.)

→Suggest a new device that can repel deer by using sound.

### 3 Contents of research

Experiment at Manriki Park

• We conducted this experiment to confirm the ecology of deer and their response to sound.

#### (1) Method of the experiment

- The deer protected in Manriki Park and the surrounding deer (about 7 deer) were asked to listen to some specific sounds. (Triangle wave, sine wave, square wave, sawtooth wave)
- Take videos of the deer's reactions before and after the sounds are played to understand their behavioral tendencies.

① Let the deer listen to several frequencies of sound (sine wave, sawtooth wave, triangle wave) from a speaker (40W, Bluetooth speaker).

② Observe the behavior of the deer (A: reaction of the moment, B: time which deer kept a lookout)

Set a level for each of A and B and consider how effective the sound is.

\* Instantaneous response: A. No response (continues to behave as before the sound was made)

B. Move only ears, look around

C. Kept move body (less than 2m away from the source)

D. Run away from the sound source (movement of more than 2 meters)

\* Duration of alert:

1.(No response)

2. within 5 seconds

3. 5 to 10 seconds

4. More than 10 seconds

③ 30 minutes ①~②, then leave a gap of 30 minutes; repeat several times to see if there is habituation.

#### (2) Experimental results

- When the sine wave was played from a frequency of 500Hz, there was no significant difference

between 1000Hz, 3000Hz, 5000Hz, 10000Hz, and 15000Hz, and the surrounding deer responded as B4 (all the time while it was playing).

- In the case of sine waves, more deer tended to stop their previous behavior at frequencies of 3000Hz and higher than at 500Hz and 1000Hz.
- When the same frequency as the sine wave was applied to the triangle wave, the response of B4, although not as pronounced as the sine wave.
- There was almost no difference in the response of the triangle wave depending on the frequency.
- When square waves of 500Hz, 3000Hz, 10000Hz, and 15000Hz were played, the deer responded with B4. However, there were one or two deer that responded with 0 (no response).
- When sawtooth waves of 100Hz, 1000Hz, and 5000Hz were applied, deers reacted with A1.
- When the sawtooth wave was played at 100 Hz, 1000 Hz, and 5000 Hz, the deer responded showed A1. When the sine wave was played again at 500 Hz and gradually increased, many deer responded A1.

#### 4. Consideration

- When the sine wave, the triangle wave, the square wave, and the sawtooth wave were repeatedly played for the first, second, and third times, the response became weaker, which suggests that habituation occurred.

→Regardless of the type or frequency of the sound, habituation will occur.

The females were more sensitive to sound than the males. (Females are weaker, so they pay more attention to their surroundings.)



It might be better to target countermeasure to only female deer.

- The observers were in a position where the deer could see us, so they may have relaxed our attention (they were used to humans).
- Many deer raised their ears and became alert to the sound, but they only stopped their behavior and did not show any avoidance behavior. May be relying on vision to make behavioral decisions.

#### 5. Response to the considerations

- In the next experiment, I would like to conduct an experiment with wild deer at night. In the next experiment, I would like to experiment with wild deer at night. I would also like to change the order of the sounds to be played and confirm whether the lack of response to square waves and sawtooth waves is due to the sound or the order.
- I want to find the sound that deer dislike as soon as possible, and increase the number of experiments on deer.
- Consider approaching deer again from their behavioral patterns.

#### 6 Future

- Organize the experimental data and summarize the ideas.
- We are planning to make our idea concrete and enter it in an idea competition or a contest.

#### 7. Source

- 鳥獣被害対策コーナー - 農林水産省
  - [鳥獣被害の現状と対策](#) — [農作物被害状況](#)
- [狩猟制度の概要 || 野生鳥獣の保護及び管理 - 環境省](#)  
<https://www.env.go.jp/nature/choju/hunt/hunt2>
- 山と田畑をシカから守る: おもしろ生態とかしい防ぎ方





The 3rd year of Reiwa era Yamanashi Prefectural Kofu First High School 2-grade group 1



# Enjoy Speaking English



Members : Toya Kobayashi Ayano Komada Sho Noguchi

## 1. Background of inquiry

“We want to be English speakers.” Our inquiry activity began with this thought. Even though we have been taking English classes for over 6 years since we were elementary school students, we do not feel like we can talk to our ALT teacher. This is because there is a problem with the English class, so we think that changing the English classes will lead to “being English speakers.”

## 2. Purpose and significance of inquiry

“Deepening the understanding of foreign language sounds, vocabulary, expressions, grammar, functions, and learning skills that can be used properly depending on the purpose, place, situation, in actual communication by listening, reading, speaking and writing.” “About daily topics and social topics, understand the outline, main points, details, intentions of speakers and writers in foreign languages depending on the purpose, place, situation, of communication. And develop the ability to express and communicate appropriately by utilizing these.” “Deepen the understanding of the culture behind the foreign language, and cultivate an attitude of proactively and autonomously trying to communicate using the foreign language while giving consideration to the listener, reader, speaker, and writer.” These are the goals of foreign language education in high schools listed in the Course of Study. In a word, the biggest goal is to develop language skills that can be used in actual communication. In today's age when it is commonly said that the world is connected, we need to communicate with people from other countries in many situations. So, we are required to have English skills that can be used in conversation. In other words, you need the ability to express yourself in English, that is, the ability to speak English. However, in Japan, in English classes students just memorize fixed phrases and complicated grammatical matters, and translate sentences which are written using difficult words and sentences with difficult structures into Japanese. This is what we call “Grammar translation.” With this, it is impossible to develop “English speaking ability” that can be used in actual communication. Therefore, we think it is necessary to change English classes. If students can think and express their opinion in English in classes, we will be able to develop our “English speaking ability”.

## 3. Content of inquiry

### 1) Contents

Make it clear what is the problems of the English classes we are taking now and think of a new class style where we are able to speak English.

### 2) Survey

The disadvantages of the English classes we take are that it makes you think that there is a one-to-one relationship between English and Japanese, that you have few opportunities to express your opinions and impressions so that it is difficult for us to develop our ability to speak English, and that it is not possible for us to respond when we are

forced to communicate. In summary, the ability to speak English cannot be developed with the current class style.

### 3) Faced problems

It is difficult to set the difficulty level for the classes shown below. Some people may not be able to participate in discussions if the theme they talk about is too difficult. On the other hand, if the theme is too easy, the discussion cannot be deepened.

## 4. Consideration

We think that the main reason why Japanese people cannot speak English is that they have few opportunities to speak English. In most of the classes we are taking now, students are just listening to the teacher explaining the sentences in the textbook in Japanese, and the students have few opportunities to speak English. Also, even if they speak, it is mainly reading aloud fixed phrases in the textbook. So, we can say that students never speak their thoughts and opinions in English. In other words, we are not used to speaking English. Therefore, we would like to provide an opportunity for students to have discussions in English during the class. We think it can reduce our resistance to speaking English. And we think that it will help to develop "speaking ability."

## 5. Proposal

[Implementation of discussion class]

1, Watch an English video on a topic twice.

(1st time: double subtitles in English and Japanese, 2nd time: English subtitles and script)



2, Make pairs and list as many words as you can about the theme of the video.



3, Make groups of three or four people and pick one word from the list to be the topic of the group's discussion.



4, One person has one minute to express his or her opinion. Then, in two minutes, the persons who were listening ask questions. This is repeated for the number of people in the group.

## 6. Conclusion

When we conducted this class with actual students, we received better feedback than we had imagined. For example, "Speaking English on my own was a very valuable opportunity." "I didn't feel like I was being forced to take a class, and I liked that it was active." I think we were able to achieve our main goal of providing students with opportunities to speak English. We would like to use this as a reference to continue to improve the class and develop speaking skills.

## 7. Source

<http://www.kankyo-u.ac.jp/f/introduction/publication/bulletin/4/1069.pdf>

[https://www.jstage.jst.go.jp/article/jcss/24/1/24\\_8/pdf](https://www.jstage.jst.go.jp/article/jcss/24/1/24_8/pdf)

<http://www.jaell.org/gakkaishi23rd/Sachiko%20SUGIYAMA.pdf>

[https://www.japio.or.jp/00yearbook/files/2014book/14\\_4\\_02.pdf](https://www.japio.or.jp/00yearbook/files/2014book/14_4_02.pdf)



# Spreading Generic Medicine



～Raise usage rate of generic medicine on children～

Members : Yuki Goto Itsuki Shiozawa Miki Kashiwagi Akari Nozawa

## 1. Introduction

We have been inquiring about “Healthy Life”. Before we carried out the current inquiring, we focused on “sleeping”, because we saw the more students napping during classes than we expected and felt a sense of danger in the situation. Through that inquiring, we knew that there was a relation between sleep time and depression,

and we started inquiring “medicine”, that as a countermeasure for depression. We found that the usage rate of generic medicine in Yamanashi was low. From this situation and aged society, the young generation are going to bear the more cost, so we think we can save the medical budget and reduce the burden by spreading generic medicine.

## 2. Purpose and significance

To raise the usage rate of generic medicine on children

To reduce the burden on working generation and the medical expenses of nation.

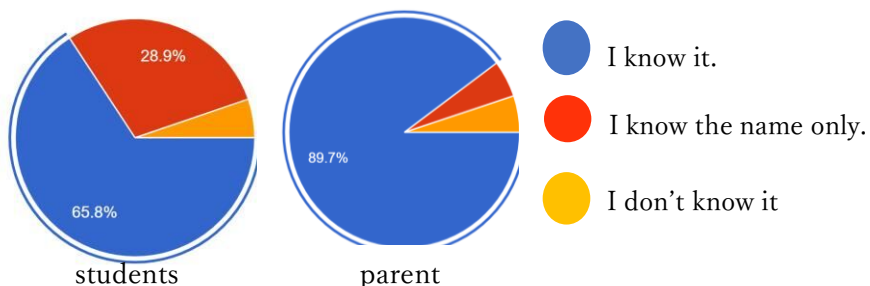
## 3. Contents of our projects

We carried out four projects.

### 1) Survey questionnaire to 2<sup>nd</sup> grade Tankyu course students and their parents

We asked about the reputation and the image about generic medicine. In this questionnaire, there is a gap of about 23,7% between the rating on parents and that of children. We found that generic medicine was not known to children.

Do you think of generic medicine?



▲ the result of the questionnaire



## 2) Interview to the members of Yamanashi Pharmacist Association

We knew that the current situation in Yamanashi was good by their story. In Yamanashi, the usage rate of generic medicine was raised most rapidly of 47 prefectures, but it is less spread to children than to adults. (Japan Health Insurance Association,2021)

## 3) Participation in High School Essay Competition

We applied to an essay competition and got the prize for our excellence.

## 4) Making posters to spread generic medicine

We made posters, and put them at walls of some supermarkets, kindergartens, and pharmacies.

## 4. Consideration

Through these projects, we were able to spread more generic medicine to children than before. However, not all people who know generic medicine trust it, and want to use it. It is important for young generation to make an effort to use it in order to help the future medical system and future finance. On that account, we should let the parental generation know it.

## 5. Proposal

We will distribute leaflets to junior high school students to explain generic medicine's good points.

We will put the posters at other places like buses which all generations often see. We should spread it to as many people as possible by projects above.

## 6. Conclusion

We should spread generic medicine to all generations.

We can spread it to young generation by making it known to the parental generation.

We could spread the name of it by putting posters, but we could not change people's mind to it.

## 7. Source

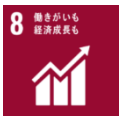
Japan Health Insurance Association

[山梨 | 都道府県支部 | 全国健康保険協会 \(kyoukaikenpo.or.jp\)](http://kyoukaikenpo.or.jp)

Yamanashi Pharmacist Association

[山梨県薬剤師会 \(ypa.or.jp\)](http://ypa.or.jp)

[c2021051721.pdf \(kyoukaikenpo.or.jp\)](#)



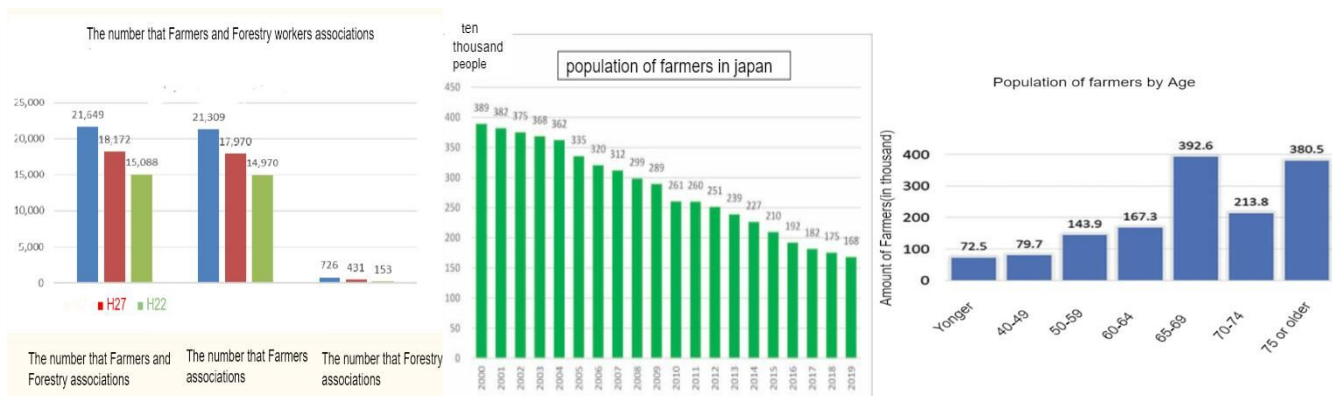
# The labor shortage of farmers



Members Fukami Mizuki Takano Eri Shimura Yu

## 1 .Introduction

Now, the number of Japanese agriculturalists is decreasing. This fact includes the decreasing number of Yamanashi's peach farmers. In fact, there were 21,309 farmers association in 2010, but only 11,970 farmers association by 2020 in the Reiwa era. We had done questionnaire to 4 peach farmers, same thing.



《Global issue》 SDGs.8 Industry, Innovation and Infrastructures

《National issue》 The shortage of farmer

《Local issue》 The shortage of peach farmer in Yamanashi

## 2 .Purpose and Significance

The population in Yamanashi and Japan is currently decreasing. At First, our team thought we should increase the number of farmers rather than helping people. But though our project, we've understood it is more necessary for farmers to get help. Now, many people think that helping farmers is not easy. So, we believe that increasing the number of people who help farmers is more important than increasing the number of farmers, which is difficult to force.

So, we want to solve farmers', specifically peach farmers', labor shortage problems. In addition, we hope that many people will become interested in farms and help farmers.

## 3 .Research Plan

### 1) Substances

We propose application “Agmuch!” that matches farmers and people who can help with jobs on the farm. The benefit of using a match making style app is that it saves time and is simple enough for all users to understand. Our plan aims to revitalize opportunities for people of Yamanashi to experience agriculture and to improve the shortage of Yamanashi.

< target > farmers in Yamanashi, Agricultural high school students, Agricultural college students,

(□Students can use farm activity as DRP.) • , homemaker, people who retired, people who lost the job by COVID19,

people who don't have a interest in agriculture.

< Matching Algorithm >

Registering (cost 300 yen) → Fill in the required items → receive notification of membership acceptance → Get matched by preferences of both job seekers and farmers → Both parties can use the “talk function” to communicate with each other. Special Note: First time users must read & agree to the agriculture manual.

< Method; “Agmuchi” details >

We would like to put these functions into “Agmuchi!”

- Pictures (such as peach blossom)
- Informational events (such as agricultural event, sightseeing)
- the information of shops and restaurants in Yamanashi
- The function of buying and selling of fruits that can't be sold because they are misshapen, etc.
- The function of lending and borrowing of farm equipment, fertilizer, and other goods.  
→ “Helpers” will be guaranteed to receive crops as a perk of their service.

2) Survey

- We sent questionnaires to several farmers. (ex, Do you have any kind of trouble?)
- We went to JA a field survey and asked about the current situation of peach farmers.
- We sent questionnaires to JA, which cooperates with DAYWORK. (DAYWORK is an application that matches farmers and people who can help with jobs on the farm)

3) Current issues

We have not completed questionnaires for farmers. Also, we are wondering how we can get more people to download “Agmuchi!” We also need to do more research on the costs.

#### **4 Consideration.**

There are many potential benefits if many people install this application by including Yamanashi information, such as COVID-19, discount fruits and vegetables and sharing farm equipment.

#### **5 .Proposal**

Kamakura Industry, some of contests, YBSapuri, DAYWORK, JA, Yamanashi Prefecture

#### **6 .Conclusions and Future Prospect**

We would like to propose “Agmuchi!” to JA, Daywork, and in contest. For now, it is important to increase the number of people who get involved with agriculture and help them. However, there will come a day when the number of people willing to help farmers will not be enough to solve the shortage of labor. To prevent this situation, we will devise an application changes many peoples thinking from “Involving farm” to “becoming farmers”.

In addition, we want to work together with another application such as YBSAPURI.

We want to cooperate with JA and the prefecture to realize Agmuchi It would be nice if we could expand this app to other prefectures someday.

#### **7 .Source**

<https://www.pref.yamanashi.jp>

<https://day.work>





# Small Hydropower Generation

Members: Hirose Rino Anamizu Mei Komatsu Yusuke



## 1. Introduction

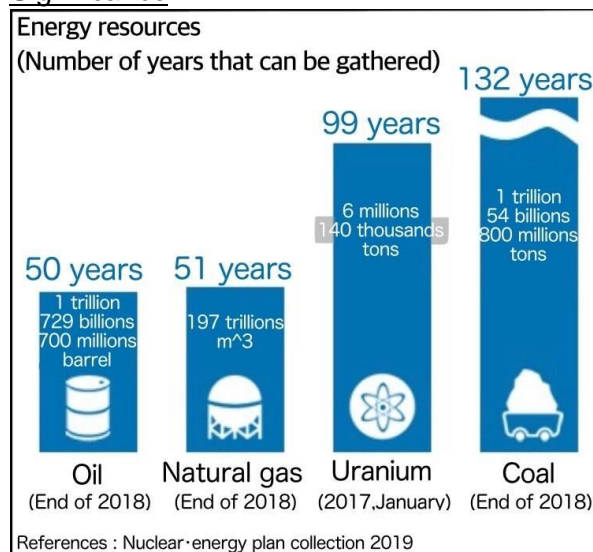
Recently, Japan has depended on thermal power generation and nuclear power generation to make electricity. But these ways of generations need resources that are limited. So, these generations are not sustainable. Therefore, we propose promotion of renewable energy generation such as small hydropower generation.

## 2. Purpose and its Significance of our project

### Purpose

Promoting small hydropower generation

### Significance



We can create a sustainable life by promoting renewable energy.

That is because, we are generating electricity that need limited resources such as thermal power generation.

This graph shows how the current resources in the world will be depleted. According to this graph, we can only produce electricity for 132 years by coal. Also, we can do so for 99 years by uranium to generate electricity.

Therefore, we have to promote renewable energy rapidly. To promote power generation using renewable energy in Yamanashi, we decided to search for renewable energy method that is suitable here.

## 3. Contents

	number of hydropower plants	total length of river channel
Nagano	170 places	7,041 km
Toyama	126 places	1,844 km
Yamanashi	65 places	2,292 km

First, we examined "number of hydropower plants" and "total length of river channel" in all prefectures because we wanted to know how rivers taken advantage of for hydroelectric power generation in Japan. Nagano has the greatest number of hydroelectric power plants. Toyama has the second number of hydroelectric power plants.

However, Yamanashi has more rivers than Toyama.

So, we thought Yamanashi is not taking much advantage of rivers. We can produce electricity more by small hydropower generation.

### - Why small hydropower generation? -

Small hydropower generation is a kind of hydropower generation that produces less than 10000kW of electricity. Hydropower generation usually uses dams. Making dams has the possibility of affecting the environment. On the other hand, small hydropower generation uses river water. So, small hydropower generation is able to protect the environment. Also, small hydropower generation is easier to install than hydropower generation.

Actually 31 small hydropower generators are currently working at Yamanashi. However, it is difficult to feel small hydropower generation close to your life.

Although Yamanashi has many advantages of producing electricity by hydropower generation, Yamanashi does not do that. We researched the present situation. It is hard to say that small hydropower generation is close to our life.

So, we think what we can do to promote it.

## 4. Method

We decided to make street lights with small hydropower generation to make people living in Yamanashi feel closer to small hydropower generation.

### Reasons to make street lights

There are some streets which do not have street lights in Yamanashi. It is dark and dangerous. But street lights need a lot of electricity. Street light using overnighting as much electricity as using all fluorescent lights at school for a day. Therefore, if we make street lights with small hydropower generation, we can contribute to the community's safety and promote renewable energy.

### - We created a small hydropower generator -



[Name]

"Komatsu-Kun No.2"

[Spec]

- Output 6V-2.4W/J2
- Light Led 5VΦ11.6×25.6mm

[Materials]

- Aluminum board 300×300mm 2 pieces
- Wire 2m
- Power generator (hub dynamo)
- Sunoko (wood board) 2 pieces
- LED light
- Bolt 2

[Creating term]

A week

[Explanation]

Based on experience of creating "Komatsu-kun No.1", we created a new type of small hydropower generator. It was made to create streetlight because "Komatsu-kun No.1" was just a generator. We valued practicality, simplicity to make, and price.

This generator uses the power generation function of a bicycle. So, you can create this type generator with your bicycle.

The generator's sides are made of wood board. →The generator will not spoil the landscape.

These wood boards have hiatus. \*1 → It is easy to maintain.

It can change the position of the power generation function. \*2→To adapt the technology to rivers of different depths.

## 5. Summary and Future Prospects

We recognize it is very important to produce electricity with renewable energy. Actually, Yamanashi has enormous potential for producing electricity by small hydropower generation. We want to install these streetlights more and advocate the advantages to it. Make sustainable and lively cities, we are going to improve it.

## 6. References

<https://www.nakatani-foundation.jp/wp-content/uploads/5042149029162c79337b6dd9483651d5.pdf>

[https://www.kepco.co.jp/sp/energy\\_supply/energy/nowenergy/japan\\_energy.html](https://www.kepco.co.jp/sp/energy_supply/energy/nowenergy/japan_energy.html)



# Agriculture × IoT



Members : Yuya Iwata、 Kouki Matsudo、 Hiroki Furuya、  
Chihiro Sasamoto、 Sae Yamamoto

## 1. Background

Main issue: SDGs No.11 Sustainable cities and communities.

- Medium issue; decreasing the number of farmers , they are getting older.

Subordinate issue; bias and prejudice for agriculture.

## 2. Purpose and significance of inquiry

- getting out of 3K in agriculture .(This is an acronym for the Japanese words "dirty," "hard," and "kiken," which are associated with the image of agriculture.)
- to suggest a plan that can improve efficiency of growing crops at low cost .
- to solve the decreasing the number of farmers by introducing IoT.

## 3. contents of inquiry

### 1) Contents

Recently, in Japan elderly people have taken on the responsibility of agriculture. Many youth in Japan have a negative image about it, so they are inclined to stay away from agriculture. We supposed that it is difficult to change the method of agriculture, and we want to increase the number of new farmers because of proposing IoT technology and a new agricultural plan.

### 2) How to research

- We introduce some useful IoT technology skills and effective plans.
- interview contents  
Whether farmers use some machines or not.  
Why don't they use machines?

### 3) Problems that we are facing

- Each farmers has difficult issues, so we should ask a lot of farmers,
- If farmers use machines, they will need a lot of money.

## 4. Consequence of inquiry and consideration

- Each farmer has a different consciousness about smart agriculture.
- There are some crops that don't need machines.
- Surprisingly ,there are a few machines used for agriculture  
→Some farmers don't need machines used for agriculture because of the difference of farmer's needs and concerns for introducing machines.  
It costs creators a lot of money to create machines.

## 5. Suggestion

To introduce a part of smart agriculture

## **6.Conclusion**

There is no conclusion now.

## **7.Source**

<https://www.maff.go.jp/j/kanbo/smart/attach/pdf/index-23.pdf>



# “The MITAKE-OLD-ROAD”



## remains North of Yamanashi.



Keigo Aarii / Saki Imamura / Hidehiko Natori / Aoi Sakita / Kurumi Muramatsu

### 1. Background of Research

In Yamanashi, where we live, the Tourism Promotion Organization researched that some sightseeing spots are buried in the age because most travelers tend to visit around Mt. Fuji. So, we started to research “The Mt.-MITAKE-KIMPU and The MITAKE-OLD-ROAD, which has a belief about Mt. MITAKE-KIMPU”. The decline of The MITAKE-OLD-ROAD has raised awareness of issues for many years but many people especially have raised awareness of issues since The MITAKE-OLD-ROAD authorizations of a component of cultural property of “The source of the craftsman in Kosyu, The MITAKE-SHOSENKYO” by the Agency for Cultural Affairs in 2020

### 2. Purpose of Research

The MITAKE-OLD-ROAD which connects Mt. MITAKE-KIMPU and urban areas have been considered an object of worship since ancient times. And this is the only way which connected the beliefs of people from many areas and The GOJOU-IWA rock of Mt. MITAKE-KINPU, SATOMIYA-KANAZAKURA-ZINZYA shrine. The MITAKE-OLD-ROAD has a big value in history because the existence of this road promotes the development of the belief. So, we think that the ruins of those places are a big problem. We suppose that not only the local public governments but also the local residents should know that fact. The local public government maintains The KISSAWAGUTI-GEDOU path in SIKISIMA, KAI-CITY but we pay attention to The MITAKE-OLD-ROAD which is loved by the people. Now, many heritage sites which have historical worth in Japan are going to ruin like MITAKE. We hope that our plan, The MITAKE-OLD-ROAD's stops declining not only The MITAKE-OLD-ROAD but also the other great historical places.



### 3. Contents of Research

#### 1) Contents

We reveal how it declined and what we can and should do to stop declining by knowing the history and the present circumstances about The MITAKE-OLD-ROAD. And we would like to make an effort to give academic information.

#### 2) How to Research

A) We visited KAI City Hall and were given a lecture about the outline of MITAKE-OLD-ROAD by experts. (2020.12.18)

B) We walked along The MITAKE-OLD-ROAD with a guide, Mr. Takahashi, a chief monk of JOUSETSU-ZI temple who is the one of the experts and has been doing his best to preserve The MITAKE-OLD-ROAD. That activity became the opportunity to think independently by feeling the present situation and the history by itself (2021.2.11).

C) We research some references “An inquiry report by Yamanashi Prefectural Board of Education” at YAMANASHI Prefectural library. (2021.3.2,3.3,3.4)

D) We climbed from Odarumi-Touge pass to Mt. MITAKE-KIMPU. We visited HONMIYA-KANAZAKURA-ZINZYA shrine and saw the vestige of SHUGENDO. (2021.7.18)

E) We made a thesis to collect our knowledge about The MITAKE-OLD-ROAD, and submitted it to KOKUGAKUIN university. (2021.9.10) We couldn't get the prize. However, through this research for making the paper, we got a lot of beneficial knowledge.

F) We attended the Glocal High School Meetings 2022, making a presentation of our research. As a result, we got the silver prize. (2022.1.7) And then, We participated in the meeting online (2022.1.29). Other students and teachers advised us on how to improve our research.

### 3) Facing the challenges

Some historical material about The MITAKE-OLD-ROAD disappeared by fire many years ago, so it is difficult to find more information. And we try to make plans about how to stop declining in some great historical places in Japan but we have not found a way to do it.



## 4. Consideration

Our idea of the decline of The MITAKE-OLD-ROAD might be...

**“During the Meiji era, the mountain religion believers were forced to stop visiting due to the SHINBUTUBUNRI ordinance. So now, even though we have freedom from such a religion, people seem to rarely visit.”**

So, our assignment is to promote the local people to visit. In summary, we need to improve the love — regionalism — that residents would like to hand down their own history. We, now, pay attention to these points.

## 5. Proposal

After receiving the present consideration, we try to lecture elementary school students in SHIKISHIMA KAI city The MITAKE-OLD-ROAD as a “Final proposal” because we attempt to reinvigorate regionalism [ 地域活性化 in Japanese ].

## 6. Conclusion

Spreading globalism all over the world, it is necessary to teach global education to students. But now, it is also important to tell activities that the locals pay more attention to their local areas. We believe that it could make a good future for The MITAKE-OLD-ROAD.

## 7. Source of information

「日本人と山の宗教」 菊池大地 著「山梨県歴史の道調査報告書 第12集 御嶽道」 山梨県教育委員会「甲斐国社記・寺記 第1巻」 山梨県立図書館「渋江長伯著遊紀勝注釈と余談」 功刀利夫 著

「甲斐の名勝御嶽昇仙峡と其の奥 史蹟名勝天然記念叢書 第2冊」 石原初太郎 著「山岳宗教史研究叢書 9 富士・御岳と中部霊山」「熊野古道」/小山靖憲「もっと知りたい歌川広重 生涯と作品」 「ジャポニズム 流行としての「日本」」「山梨の奇岩と奇石 石のロマンを追って」「江戸時代の甲斐御嶽山金桜神社」



# Support for Single Parent Families Using Children's Cafeteria



Sayaka Shimada , Sakura Suzuki , Mioko Sakamoto, Munehiro Tsuji, Asumi Mukoyama

## 1,Background of the quest

Now, there are about 8600 single parent families in Yamanashi. 90 percent single parent families in Yamanashi are single mother families. And then, 83 percent of single mother families in Yamanashi think “We are poor”.

Single parent children tend to give up a lot of things. Because they think “We don't have enough money.” They have less experience than common children. We think it is a big problem and caused “negative chain”. “Negative chain” occurs as follows. First, as I mentioned before, single parent families' children tend to give up a lot of things. Second, they have less experience than common children. Third, they can't choose jobs to get enough money. Fourth, they have their family remain without enough money. .Fifth, they become single parent for various reasons. Sixth, this 'negative chain' is occurred again. We think that it important to inform and get know correct information. In order to tell usage information of children's cafeteria and events that I'm going talk about later for many people, we plan to start to make leaflet that is posted up a notice at various places.

## 2,The purpose of our research

We have two goals.

### (1)Goal1

Goal1 is to make a relaxed place for poor and fatherless family. First, we understand problems and conditions of them. Next, we help with the activity of children's cafeteria

### (2)Goal2

Goal2 is to let everyone know about children's cafeteria. First, we make flyers and bulletin board about children's cafeteria .Second, we show them to people.

### **3,The content of the inquiry**

#### (1) Contents]

We listen to fatherless families talking facing challenges. Also, we take a statistics about the children's cafeteria by survey.

#### (2) Procedure

First, we will take survey on awareness and usage situation of children's cafeterias. Second, we will ask who run a children's cafeteria about current status of single -mother families. And, we will visit the children's cafeteria and food pantry. Then, We will consider information which we collect. ※ Currently, we are attending events at the children's cafeteria.

#### 4. Discussion

If people and fatherless families and supporters could receive right information, children's cafeteria would be known well and will be able to support more people. That is the first step to achieve the society we are amazing for.

#### 5. Suggestion

- Planning a 「children's summit」
- To make flyer about children's cafeteria and take students of elementary school and junior high school a questionnaire.

#### 6. Reference

Children's cafeteria 「なないろカフェ」





# Siesta PROJECT Can Naps Change Japan?

Members : Mirei Yamamoto, Ema Maruyama, Kasumi Ozawa, Mizuki Yamasaki



## 1. Background of inquiry

For us, the biggest enemy is the urge to sleep in the afternoon. We feel that our ability to study efficiently becomes worse when we are sleepy in classes. If we feel awake, our ability to pay attention in class is better and thus we are more in the mood for studying.

## 2. Purpose and Significance of Inquiry

As we already mentioned, the most important issue is sleepiness in the afternoon.

Why do we feel sleepy? It's because our blood sugar level rises after eating lunch, and the parasympathetic nervous system is activated to lower our blood sugar. At that time, hormones called insulin are secreted, and insulin makes us sleepy.

In fact, more than 80% of Kofu First students say "I usually feel sleepy". From this statistic, I can understand that sleepiness in the afternoon is an important issue which we have to solve.

There are currently many office workers who worry about drowsiness in the afternoon too. This drowsiness can cause some problems, such as losing concentration or reducing productivity. Of course, the definition of drowsiness is the urge to sleep. In this project, we will test the difference in concentration and productivity of students by having them take naps. Taking a nap can help make one feel refreshed and decrease fatigue. In addition, we believe taking naps can be easily taken "whenever, wherever, and by whoever". We want our app's users to develop this outlook.

Therefore one of our main goals is to set many more students to take naps regularly. So, we tried promoting "naps" using a cellphone app, which encourages this habit and is a good starting point for those who have not yet adopted napping.

## 3. Contents of inquiry

### 1) Contents

We learned about the "nap effect" and shared it with community members.

### 2) Main activities

- Conducting a nap experiment for Kofu First High School students.
- Interviewing Professor Mitsuo Hayashi, Social Scientist.
- Creating a "nap model" for companies to adopt.
- Making nap time announcement using the school broadcast.
- Looking for companies to support our napping project.
- Developing the application.

### 3) Current task

At first, we tried to develop a pillow, which can make comfortable naps. However, few people take a nap because napping isn't widespread in Japan yet, not because of uncomfortable pillows. So first, we decided to spread the habit of naps by our app.

## 4. Consideration

We tried promoting naps, however our activities didn't lead to the popularization of napping. We couldn't convince others about the overwhelming benefits of napping. We thought people who knew the benefits of napping would want to take naps. However, it was hard for people to incorporate naps into their daily routine.

Therefore, our main problem became how to approach people who aren't interested in naps. We think if people realize the benefits of napping for themselves, they might take naps in the future. So, we suppose that it's necessary to create an incentive system to take a nap.

Therefore, we think more people will naturally take more naps by creating a system that incentivizes one to make napping a regular habit. In other words, we can spread a nap to more people by creating incentives for those who participate.

## 5. Proposal

### A nap spread activity "PNA", Power Nap Activity

"PNA" is an activity to spread the effectiveness of napping to more people.

The actual main activities are as follows

- Participation in the Yatsugatake SDGs School Community.

We made a presentation on the necessity and effectiveness of napping.

In addition, we had discussions with high school students and companies to exchange various opinions.

- School broadcast

During the month of February, facts about the effectiveness of napping was announced to all students during their lunch break, and a call was made for students to actually take a nap.

- Submission of a proposal to a company about introducing naps

We conveyed the necessity and effectiveness of naps to the students and prepared a proposal to present our research at the company. We then submitted this proposal to the Yamanashi branch of RICOH Corporation to introduce new napping procedures.

Launched "nappli," a dedicated nap application.

We have the uterus introduce a nap to get into the habit of taking a nap at work or school.

It is an application will the exclusive good of making a habit for users to take more naps.

<Application contents>

The main function is to record your naps. You enter the date and time of your nap, the quality of your sleep, your posture, and other information. These records are stored in a calendar column and displayed as a list. Here, you can check the quality of your daily naps at a glance, as they are displayed in different colors according to the quality of your sleep.

In addition, users can earn one point after entering their nap record once a day. Users can then apply for special offers according to the points they have accumulated.

<The overall flow of the application>



1 - The users record the details of their naps.

2 - Companies associated with nappli will receive

3 - The data is converted to points, which has a monetary prize value so that the companies can offer rewards to the users.

We built this system so that users can also regulate their frequency of sleeping even those who were never interested in taking naps. This will help them recognize the health benefits from using the application.

We proposed this plan to several bedding companies in the prefecture. One of them, Yagi Bedding Store, introduced us to Yamajin Bussan Co.

After discussions with Yamajin Bussan, they agreed to actually provide us with products. The following is the trial of the application rest tried that was decided during the discussion.

Implementation of the app in the trial stage

Objective: To popularize napping through the app and to troubleshoot app issues.

Partner company: Yamajin Bussan Co.

Period: Approximately 6 months

Target: 200 students of Kofu First High School

## 6. Conclusions and Future Prospects

As previously stated, we think we can solve the issue of afternoon sleeplessness by popularizing napping.

There are other ways to solve this problem, but we think naps should be taken “easily by whoever, whenever, wherever.”

We actually drew out a proposal about the above administration of “nappli” and proposed it at our school’s staff meeting. However, our proposal wasn’t allowed by our school because of the management of personal information and the environment of ICT (Information and Communication Technology) in our school. Hereafter, we are going to improve and develop our application to solve these problems.

Also, a new issue we’ve encouraged is how to get more time for napping. Now for example, it’s hard for us students to take naps in our lunch time which isn’t enough time for napping and resting. So, although we talked with the principal in our school about securing a nap time, we found out that it’s very hard because of prefectural roles. Moving forward, we are going to spread the benefits of napping to the Prefectural Board of Education and return to getting our school’s opinions about introducing naps.

We need to gather more evidence of the merits of taking naps to allow them to secure the time for napping. From now on, we will pour our efforts into these new objectives.

## 7. References

"Short Sleep to Measures to Sleeper in Afternoon" Professor Mitsuo Hayashi & Tadao Hor, Hiroshima University Graduate School of Human and Social sciences.



# Depopulation × Local event



Members : Nakanishi Kota, Watanabe Yuto, Furuya Takato

## 1. Introduction

Now, the population of Yamanashi is decreasing. One of the problems is that some of the areas in Yamanashi are designated as depopulated area, and it causes some problems.

## 2. Contents

### ① Current situation and problems in Yamanashi

#### ◆ Definition

- "Depopulated area" is where the population is decreasing and is facing some difficulties.
- "Depopulated area municipalities" is the area which is governed by the law. (In Yamanashi, such areas are more than half of all areas.)
- The problem in depopulated area
  - It becomes difficult to maintain the social security system because of the lack of financial resources
  - Decrease of number of workforces
  - Consolidation and integration of schools.
  - Decline of commerce and service industry
  - Decline of local culture and events
- Population in Yamanashi is expected to decrease. Therefore, all people in Yamanashi have something to do with depopulation problems.

Solving the depopulation problem is not easy. But, it is a serious problem. Therefore, we should do what we can do to make the problem less serious from now on.

### ② The importance of the local community

- In Hayakawa town, the settlers there have revived the event called "Narata no Bon Dance" and got a lively atmosphere. After that, two households moved to Hayakawa.
- A study conducted by Tottori prefecture shows that many people who live in urban areas and are willing to move place great importance on "community" and "relationships" i

n deciding their destination to move.

### ③The state of local events

Case-study1. ” Donyasse”

It is a local event annually held in Enzan in Koushu city.

Because the number of children is very small, it is difficult to hold the event in the traditional way.

Case-study 2. ”Okagura”

It is a dance held in Nirasaki city.

There are few people holding the event.

In addition to the above cases, adults who are hosting local events and passing on local culture to the next generation are few now.

## 3.Consideration

It is important for local residents to be actively involved in the area and participate in local events. And to participate in local events is what we can do now to protect our own area.

## 4.Suggestion

- We told the prefectural board of education about the importance and the situation of local events.
- Although still under consideration, we have plans for local residents of a wide range of ages to hold local events and learn about local culture.

## 5.References

- PR magazine : FUREAI No.64
- Paper : Migration to rural areas, Survey of settlers and locals ~How to collaborate with the regional revitalization cooperation team~



The 3rd year of Reiwa era Yamanashi Prefectural  
Kofu First High School 2-grade group10

# GAMEXHEALTH

Members: Issei Kitta Yukimi Hiroshima Kaito Furuya  
Sarara Kubota Yuna Yoshimoto



## 1. Introduction

Today, the average life of people in Japan went up to the highest standard in the world. \*In extended life, people have a long time to enjoy hobbies. Therefore, it became more important to keep elder's health. Most physical diseases can be cured in hospitals, but the \*cognitive ones can't be completely done with modern medical technologies. We plan to stop decline in cognitive function through playing games and providing new \*stimulus.

\*In extended life:長い人生の中で \*cognitive:認知の \*stimulus:刺激

## 2. Purpose

### Issue

- The elderly people can't enjoy the rest of their life because of \*dementia.
- There is no great way to cure dementia all around the world.
- However, some research institutions around the world are trying to prove that games are effective in preventing cognitive decline.
- On the other hand, Japanese people, especially the elderly have quite a negative image of games.
- Our study is to \*eliminate this image.

### Target

- 65 year old couple
- Children and grandchildren live in nearby prefectures.
- See them about once or twice a month.
- Not having a major illness.
- They are \*pensioners.

### Benefit

There is a chance of delaying the \*progression of dementia by playing games.

\*dementia:認知症 \*eliminate:取り除く \*pensioners:年金受給者 \*progression:進行

## 3. Contents

### 1) Contents

When we learned that games can affect the progression of dementia, we wondered if we could use them in Yamanashi Prefecture. Because the number of elderly people is very large and is expected to continue to grow. But we came to the conclusion that it would be difficult to scientifically test that games are effective in preventing dementia only by ourselves. Also it's more difficult to create our own games that are effective in \*preventing cognitive decline.

However, the relationship between dementia and video games has been studied for a long time, mainly overseas. Therefore, even if we are not able to develop games by ourselves now, we need to remove the negative image that the elderly may have for games when it becomes more common in Japan. We also think that we could do our part to build a \*foundation for the age when adults can play games.

To make our ideas a reality, we are considering events for activities in which the elderly could play games. In this event, we ask the elderly people in nursing homes to play the game. And after that, we are planning to give them a simple cognitive test to see how effective they are.

\*preventing:抑制する、遅らせる \*foundation:基礎、基盤

## 2) Research method

(What we have done so far)

- Research papers, internet research, brushing up the plan on Y-NEXT
- Interview with grandparents (concerned parties), interview with people from Japan Active Association
- What we plan to do in the future
- Implementing the project at a nursing home or other facilities.

## 3) Challenges we are now facing

Due to the COVID-19 infection it is difficult to hold an event.

We do not have a concrete plan of how to hold the event with this virus.

## 4. Consideration

Although games are thought to be effective in preventing and slowing down the progression of dementia worldwide, there are bad images of games while elderly in Japan. Playing games in elderly care facilities will attract young people to the nursing care industry. It will help to improve the situation of nursing care facilities like a shortage of staff. We believe this will help the elderly enjoy a purposeful and \*fulfilling retirement.

\*fulfilling retirement:充実した老後

## 5. Future Prospect

It turns out that there are elderly people that have bad images about playing games, so we will consider how to remove them.

It is difficult for the elderly to play games right away. Therefore, we are going to seek ways to help the elderly become \*accustomed to digital devices such as games or YouTube.

For this reason, we will talk to the facility staff about our plan and get their feedback on it. Based on that, we would like to create a plan that will allow the elderly to experience the fun of the games at the COVID-19 disaster.

\*accustomed:慣れる

## 6. References

<https://www.ucsf.edu/news/2021/03/420096/playing-virtual-reality-video-game-may-boost-seniors-memory>

[https://www.pref.wakayama.lg.jp/prefg/020100/d00201199\\_d/fil/06seisakushouwakayama.pdf](https://www.pref.wakayama.lg.jp/prefg/020100/d00201199_d/fil/06seisakushouwakayama.pdf)

[https://www.huffingtonpost.jp/2014/01/02/game-to-strengthen-brain\\_n\\_4530168.html](https://www.huffingtonpost.jp/2014/01/02/game-to-strengthen-brain_n_4530168.html)

[https://www.pref.wakayama.lg.jp/prefg/020100/d00201199\\_d/fil/06seisakushouwakayama.pdf](https://www.pref.wakayama.lg.jp/prefg/020100/d00201199_d/fil/06seisakushouwakayama.pdf)

[https://www.pref.wakayama.lg.jp/prefg/020100/d00201199\\_d/fil/06seisakushouwakayama.pdf](https://www.pref.wakayama.lg.jp/prefg/020100/d00201199_d/fil/06seisakushouwakayama.pdf)



# POWER OF MUSIC



~Relationship between music and appetite~

Members : Kouki Miyasaka Hiromi Hosino Kosuke Kino Tatsuharu Ueda

## 1. Background

We have to have a silent meal during lunch time due to COVID-19. And we think having this type of lunch is not fun. However, when listening to music, having lunch is more fun than lunch with no music. Therefore, we think music has a good effect on our appetite. So, we decided to research what kind of music makes us pleased while eating.

## 2. Purpose and Significance

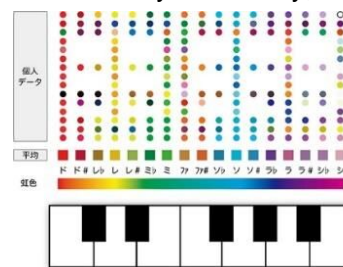
We are going to research the relationship between music and appetite. It's because we might be able to discover the power of music useful for our lives by researching it. Then we'll give a new suggestion about music which could make our lives happier

## 3. Contents

Last year, we focused on eliminating noise to increase concentration and researched "masking effect" to solve this problem. This year, in addition to the previous research, we have researched the influence on five senses by using sound or music. We did them by changing key and tempo that consist of music.

### • How to research

Key is part of "Harmony" that is one of the three major elements. It has major key and minor key. Generally, major key is said that it's felt bright, happy, and minor key is said that it's felt dark, sad. Also, it's known that key and scale relate to color circle. From color and appetite point of view (figure 1), it is known that warm color such as red and orange, increases our appetite and dark color such as blue decreases it. Based on the figure, we should want to eat when we listen to music in key that makes us think of "red in mind".



↑ Figure 1

Tempo is part of "rhythm". It's said that we can get effects such as "being faster" or "feeling bright" by listening to fast tempo music, also, if we listen to low tempo music, we're affected by such as "getting relaxed" or "feeling sad".

To make sure whether they are true or false, we put the music, which we changed its key and tempo to five types like below and played them during lunch time at 1-6, 1-7, 2-1, 2-6 and 2-7 of Kofu First High School. Then, we took a questionnaire their students to survey how music elements affect our appetite. We used the allegro part of "K.311", "K.545 written by W.A.Mozart as the original song.

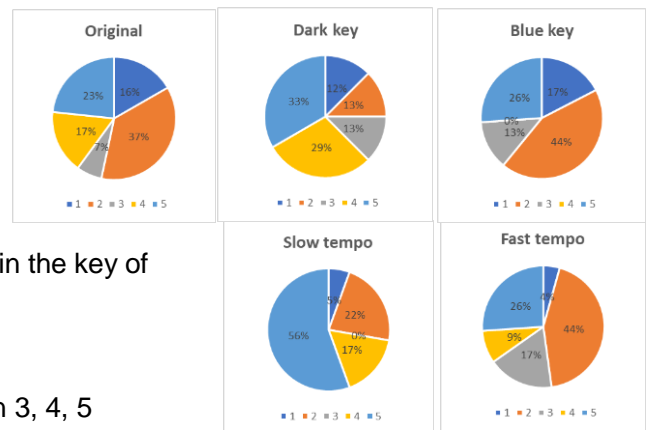
- D-major, BPM120(red, the same as original) • D-minor(dark) • A major(blue)
- BPM60(slow) • BPM180(fast)

The music whose key shifts its tempo is BPM120, while the music whose tempo shifts its key is D-Major.

## •result

1. Satisfied 2. Slightly satisfied 3. Slightly dissatisfied 4. Dissatisfied 5. Neither

The right graph shows the percentage of responses to the question, "Have you become more satisfied with your lunch?". From the results, we can see the following.



① Satisfaction with music in the major key was high.

(Option 1 & 2 was more than 50%)

② Among the major keys, satisfaction was higher for music in the key of blue than for the original song.

③ Music in minor key was less satisfactory.

④ Music with a different tempo was more likely to be chosen 3, 4, 5 regardless of the speed.

Also, in the free description section of the questionnaire, some people expressed their preference for music with a slower tempo.

## •Consideration

In the view of key, the major key is more suitable for music played during meals. Also, it was possible that the pitch of the sound was more related to the satisfaction level than the color circle because the pitch of A-flat major was higher than the original. In the view of tempo, we guessed that the same tempo as the original song, or a slightly slower tempo, would be suitable. From these things, we think that a song in the major key, with a higher pitch, and the same or slightly slower tempo compared to the original song, would increase the appetite more.

## •Issues

We had two problems in our research. First, we didn't have enough days to research. Second, we couldn't research with many people. We would like to get more accurate data by increasing number of people and planning long-term experiment.

## 4.Proposal

In the future, I would like to use of what I learned in this experiment in order to study what kind of music is suitable for. And, we are planning to give some restaurants a proposal, on which we recommend they play the music we'll make as the BGM of the restaurant.

## 5.Source

<https://ci.nii.ac.jp/naid/110002950473>

[https://kwansei.repo.nii.ac.jp/?action=repository\\_action\\_common\\_download&item\\_id=14557&item\\_no=1&attribute\\_id=22&file\\_no=1](https://kwansei.repo.nii.ac.jp/?action=repository_action_common_download&item_id=14557&item_no=1&attribute_id=22&file_no=1)

[https://chuo-u.repo.nii.ac.jp/?action=repository\\_uri&item\\_id=6321&file\\_id=22&file\\_no=1](https://chuo-u.repo.nii.ac.jp/?action=repository_uri&item_id=6321&file_id=22&file_no=1)

[https://www.waseda.jp/prj-kyodo-enpaku/trans/modules/xoonips/download\\_file\\_id\\_11.pdf](https://www.waseda.jp/prj-kyodo-enpaku/trans/modules/xoonips/download_file_id_11.pdf)

[https://www.jstage.jst.go.jp/article/cookeryscience1995/35/1/35\\_2/\\_article/-char/ja/](https://www.jstage.jst.go.jp/article/cookeryscience1995/35/1/35_2/_article/-char/ja/)

<https://www.nature.com/articles/s41598-021-95922-7>

[https://www.youtube.com/watch?v=Ta\\_C69DNsxl](https://www.youtube.com/watch?v=Ta_C69DNsxl)





# Life with my bottle

Members : Kurumi Hanawa Suzu Hasegawa Yui Natsukawa Haruki Horita



## 1. Introduction

There are many plastic products in our life. They are produced on large scale because it's useful but,they can't return to nature.so we have to reduce waste of plastics.

## 2. The purpose of our research

To reduce the amount of plastic waste

↓ We focus on plastic bottles

We chose my bottles instead of plastic bottles

↓

We would like to spread my bottles

## 3. Contents of our research

### 1) Contents

- To spread bring water bottle and to reduce waste of plastics
- Reduce consumption of plastic → reduce the amount of plastic waste

### 2) Way of researching

[What we have done so far]

- Interviews with cafes, a prefectural, and a Yamanashi university professor
- field work at Kai Kyotou clean center.
- Presentation at Yatsugatake SDGs for school
- Application for SDGs forum
- Selling powders for drink in our school  
Period : 24th, September ~ 24th,December  
Place : school store  
Name : MY BOTTLE STICK ONE  
Variety : coffee, green tea, barley tea, Rooibos tea
- Carry out a questionnaire for students

[What we are going to do from now on]

- post our research activities to Yama.P's news letter.

### 3) Our problems

- Sanitation under Covid-19 situation
- Whether cafes and restaurants start my bottle service

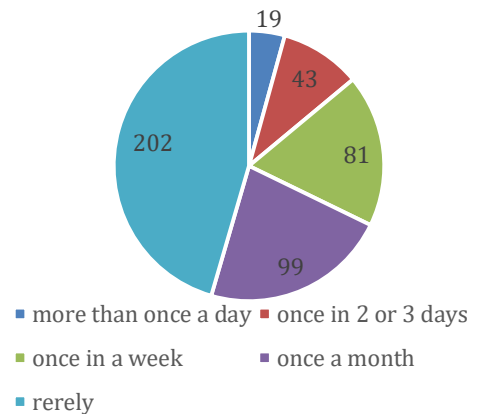
#### 4.Consideration

We know that approaching environmental problems costs a lot of money. We have to make an eco-friendly suggestion stores can make a profit and, also it is important to make suggestions which people can continue.

According to our questionnaire, People who buy plastic bottles were not as many as we expected. On the other hands, there were few people who use “my bottle stick one”. The main reason was they have their drink in their water bottles. As we sold it in winter. we thought the number of users would have increase if we had sold in summer. It is because we drink more in summer than in winter.

In addition, our promotion was not enough. And it was difficult to understand the right amount of water for the powder drink.

How often do you use plastic bottles? <n=455>



#### 5. Suggestion

##### 【Service】

purpose; to spread to bring own water bottles

way; ①We ask a company to produce our original water bottles.

②We sell them on the Internet.

③We ask cafes to put drinks in our bottles if customers bring them to the café.

④Customers who bought our bottles can use them at one of the member stores.

⑤They can collect points and use them there.

effect; Not only customers but also producers can cooperate to reduce the number of plastic bottles.

#### 6.Source of reference

日本国内で消費されるペットボトルの本数は何本？

<https://lessplasticlife.com/plastics>

飲食サポート

<http://inshoku-support.jp/9071/>

社会人の水分補給に関する意識調査

<https://prtimes.jp/main/html/rd/p/000000125.000000563.html>

リーフ茶の普及でペットボトルを減らそう

<https://kyoto-leaftea.net/why2/>

国際連合広報センター

[https://www.unic.or.jp/activities/economic\\_social\\_development/sustainable\\_development/2030agenda/sdgs\\_logo/sdgs\\_icon/](https://www.unic.or.jp/activities/economic_social_development/sustainable_development/2030agenda/sdgs_logo/sdgs_icon/)



# To Decrease Deaths By Improving Shelters



Members: Sara Takimoto Wakaba Saito Ayano Nishikawa Rina Matsuoka

## 1. Background

There are many people who die while living in shelters in Japan. The case of the Kumamoto earthquake accounts for more than half of the number of such deaths. However, these deaths in shelters were not caused by the earthquake themselves. Rather, they have been linked to the stress and conditions of living in shelters.

To solve this problem, we believe most important task is to decrease deaths caused by shelter environment. Next is to reduce the amount of mental health issues they emerge in shelters. The final task is to solve various other health, environmental, and privacy issues in shelters.

Japan is a country with many disasters. If our shelters' environment are not good enough, it could become a serious problem for people with special needs, such as the elderly, handicapped, and pregnant women, if an emergency occurs. So, we decided to further research this problem.

## 2. Purpose

We researched the issues that lead to deaths in disaster shelters (Ex. Economy Class Syndrome and Lung of illness), and realized how often gyms are used as shelters.

After reading about the negative points of gyms as shelter spaces, we realized that using gyms as shelters is not the best way to evacuate. Because gyms don't protect our privacy and are very small per person's space.

Instead, we found alternative spaces like our relatives' or friends' house to evacuate to. Of these potential shelter locations we focus on hotels. As such, the purpose of our project is to investigate how hotels might be used during evacuations and how they could reduce shelter deaths.

## 3. Methods

### 1) Interview with the Kofu City Office

-Date: June 10<sup>th</sup> 2022

-Results: Kofu City Office has been working on activities about disasters. We found that its city prepares lots of equipment for evacuating to gyms. This interview helped us understand the high level of preparation and materials a hotel might need to become a viable shelter.

### 2) Interview with hotel managers about "Hotel Evacuation".

-Goal Date: March 23, 2022

-Contents: We are going to interview with the Fujikawaguchiko Town Hall. We will ask them why they institute the “Hotel Evacuation”.

### 3) Make a Hotel Shelter Proposal

We first research evacuation to the gym. We interviewed with the Kofu City Office, which has been working on activities about disasters. We then decided that it would be best to avoid evacuating to gyms as much as possible in order to reduce deaths in shelters. We are researching “Hotel Evacuation”.

## 4. Future Steps: Plan a proposal

We would like to propose our plan for “Hotel Evacuation” to hotel operators and local governments. The content of the plan is the order and details of hotel evacuation, based on data from previous disaster situations.

We are going to make the “Hotel Evacuation” plan more concrete and realistic by listening to the opinions of hotel operators and local governments. In addition, we would make the plan adaptable to various situations which vary by the season and the time of day.

## 5. Conclusion

In our research of this topic, we discovered that evacuating to gym shelters is not bad. In fact, there are many advantages to evacuating to gyms. However, in order to save more lives, we think it is important to evacuate to hotels that are better equipped as evacuation facilities. We don't yet have enough information and knowledge to form a solid model, so we have to continue our research.

Disasters are large in scale and there are many things that we cannot understand until we actually experience them. In order to make our plan more concrete, we need to interview with the people working on hotel evacuations. We will continue our research without forgetting our purpose to decrease deaths by improving shelters.

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# Let's study on my own!



## ~children's habituation of home study~

Members : Miri Furuya Miyuu Wakatsuki Natsu Okuyama Kazuki Akaike

### 1. Background of the research

We were interested in education issues around the world, but we've determined that the Coronavirus makes it difficult to conduct operations outside the country. So we focused on poverty and education in Japan and then we began our research. As a result, we learned that there are many children who cannot learn enough at home for various reasons. We began to think about what we can do so that all children with all kinds of problems could learn in a more equitable way.

### 2. The purpose, significance of our project is:

- To indicate the relationship between academic ability and social background, including economic disparity.
- To reduce differences in learning opportunities due to differences in social background.
- To make it possible to provide a new form of experience learning through activities, such as field work, which has become impossible with the Coronavirus pandemic.

### 3. Content of inquiry

#### 1) Contents

Most of our priorities focus on reducing social inequality through education. In order to solve this problem, we thought it necessary to clarify the following points;

- ①To allow children with family problems to learn freely.
- ②To create a comfortable environment, in which is easy for children to learn.
- ③Non-cognitive skills and experiential learning in the Coronavirus pandemic.

#### 2) Survey

- To research through the Internet and books
- To research by academic paper
- To participate in a volunteer camp
- To participate in an activity at *Café de Terakoya*
- To create an original newspaper

#### 3) Results and consideration

#### ①-1 SES(Socio Economic Status) and Academic Ability

SES is an index which includes family income and parent's education

Children from low-SES families tend to have lower academic ability. Children from high-SES families tend to have higher academic ability.

#### 1 -2 Learning Habits and Academic Ability

Why do differences in SES and family environment affect children's academic ability? What determines academic ability? We wondered if these factors are related to children's learning habits. In our research we found a trend in the National Assessment of Educational Progress. That is, students who spend more time studying outside of class have a higher average of correct answers in their subjects.

Also, using a survey conducted by *Ochanomizu* University, we examined the characteristics of schools where there was little difference in the academic achievement test scores of children from low-SES families and children from high-SES families. In such schools, activities such as home study instruction, independent study notebooks instruction, and make-up classes during long vacations were conducted.

From these surveys:

We realized that an important method factor or improving academic performance is to establish habits of home study. To establish such habits, independent study notebooks and study plan seats would be useful.

#### 2 Activity of *Café de Terakoya*

*Café de Terakoya* is a student group. They provide children with comfortable places to study and learn on their own. *Terakoya's* activities are held all over Japan.

In Yamanashi, They one held at *Seiun* Temple and at the café inside the Yamanashi Disaster Prevention New Building.

### 3-1 Newspaper Writing

Due to the effects of the coronavirus, we have not been able to go out as much as we would have liked. As a result, children's experience of outdoor activities is decreasing. Experiential activities are thought to be effective in cultivating the basic skills necessary for "the ability to survive in society". Children from low-SES families also tend to have fewer chances to participate in hands-on activities. Furthermore, there are still a few things we don't know about our own communities, so we will continue to follow information of interest in Kofu City and the surrounding areas, write them down in newspaper articles, and share them at schools and other places. This will allow children to engage in outdoor activities without having to assemble in person. It is also a great way to rediscover the charm of the region.

### 3 -2 Cognitive and Non- Cognitive Skills

There are two major categories of human abilities: cognitive skills and non-cognitive skills. Cognitive skills are abilities, such as IQ, that can be judged by test scores.

On the other hand, non-cognitive skills mean abilities outside of cognitive skills, like internal skills that are difficult to judge by tests.

The future that children will live in will be a society in which they will not be able to play an active role if they continue to think and act in the same way they have in the past. Familiar jobs may be lost due to the development of AI and robot technologies. Our society will also be diverse in various aspects such as globalization, ways of working, and attitudes toward gender, and our society will expand using the Internet. And the Ministry of Education, Culture, Sports, Science and Technology has set the direction of education for the future. "Thinking, judgment, and expression" what is important is the ability and desire to learn on their own. It is also the ability to think things carefully, make judgments based on evidence, and express them in a way that is easy for others to understand.

Non-cognitive skills are focused on as a necessary skill for children who will lead the next generation. This is because in today's society, various changes occur daily, such as globalization and a variety of work styles.

### Next steps of our project:

- Research the study habits of elementary school and junior high school students in Yamanashi.
- Conduct joint activity with *Café de Terakoya*

Specifically, join the *Café de Terakoya's* activity and suggest a plan to support more children's home study.

- To propose less crowded outdoor activities, surveys and interviews about places we find attractive in Yamanashi Prefecture.
- Create a newspaper summarizing this, and post it in a place where people will see it.

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