

Practical Education program for improving response capability to survive from tsunami

津波から生延びる対応力向上のための教育プログラムの実践

知識
Knowledge

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備え
Measures

避難
Evacuation

困難
Difficult

非常持出品

いざという時に備えたいもの Think you should always carry

- 常備薬（救急箱） Household medicine First-aid kit
- 現金（現金も） Cash (ID cards)
- 首振り防止剤 Whistle
- 必要に応じてガソリン入れ缶 Fuel canister
- 保険証や免許証のコピー お薬手帳 Health insurance card copy & Okusuri Teshu ni

日頃の準備

Preparation for daily life

- もしもの時の役割分担や、連絡方法、避難場所を家族で話し合ってください。 Decide what to do in how to contact and with whom to meet in the case of an emergency among family members.
- 避難者の名前・住所・血液型・指紋の登録を済ませてください。 Carry a paper with ID information, blood type and photo of family members.
- 火災の発生時に消火器・非常用退出図を準備しておく。 Prepare a fire extinguisher and emergency bag and put them in a noticeable place.
- 断り防止器具や耐震マウントなど、家具を補強・固定する。 Strengthen or fix furniture from falling or collapsing.

室内

Indoors

- 強い揺れを感じたらすぐに避難！ Evacuate immediately when a strong shake or hearing warning alarm.
- デマに惑わされず正しい情報をきき取り、避難！ Do not follow rumors, receive accurate and collect accurate information.
- パニックにならない事が大切！ It is important not to be in a panic.

夜寝るときもご用意！

Best for your bed!

- 携帯ラジオ（電池とスリッパ） Portable radio (batteries & slippers)
- ソーラー手回し充電器【太陽充電器付き】 Solar preparation charge wright
- 防水のライター・マッチ Waterproofing lighter & match
- 予備の乾電池 Spare dry cell
- 飲料水 Drinking water
- 非常食【3日分】 Emergency provisions (3days)
- 下着・タオル・歯ブラシ Underwear, towel & toothbrush

地震のときは

During an earthquake

- 揺れが落ち着いたら、火の始末や電気が止まっているかを確認する。 Stop the fire and electric supply after the shake has passed.
- 机やテーブルの下に身を隠し、机の足を持つ。 Hide yourself under the desk and hold their legs.
- エレベーターは絶対に使わない。 Do not use the elevator.
- エレベーターに閉じこめられたら、大声で助けを呼びかけながら、各自近くの高台に避難する。 Encourage "Tsunami Ten-Poshiite" because many people with a loud voice while evacuating to high ground.

津波のときは

During a tsunami

- 津波情報や警報をしっかりと聞く。 Listen to tsunami advisories and/or warnings carefully.
- すぐに高台に避難する。 Evacuate to high ground immediately.
- バスや荷物でガラスの破片から頭を守る。 Protect your head from the objects using your bag.
- 津波情報や警報をしっかりと聞く。 Listen to tsunami advisories and/or warnings carefully.
- すぐに高台に避難する。 Evacuate to high ground immediately.

避難場所の確認 Confirmation of the evacuation shelter

津波や避難場所に関する標識 Tsunami and evacuation shelters related sign

- 普段から避難場所を確認しておく！
- 家族で実際に避難場所まで歩いてみよう！

Where should we evacuate during the emergency? Let's confirm right now the location of the evacuation shelters! Let's walk to the evacuation shelter together!

広域避難場所
Outdoors

津波避難場所
Tsunami

津波避難ビル
Tsunami

Background

- Damage from the 2011 Great East Japan Earthquake especially 466 children under age of 9 years old were killed.
- 74 out of 108 children in Ishinomaki primary school were killed as they could not take advantage of the 50 min to evacuate before tsunami
- Elementary school and middle school students respectively were killed in Yuriage area of Natori city.

- What's the reasons?

Tsunami has never been expected

Advance preparation was insufficient

Evacuation drill for tsunami was not enforced

No education program has been existed to provide
wisdom to survive



Yoshihama School,
All saved



all students saved
10 teachers saved

4-5km far from the coast

Okawa school, big damage

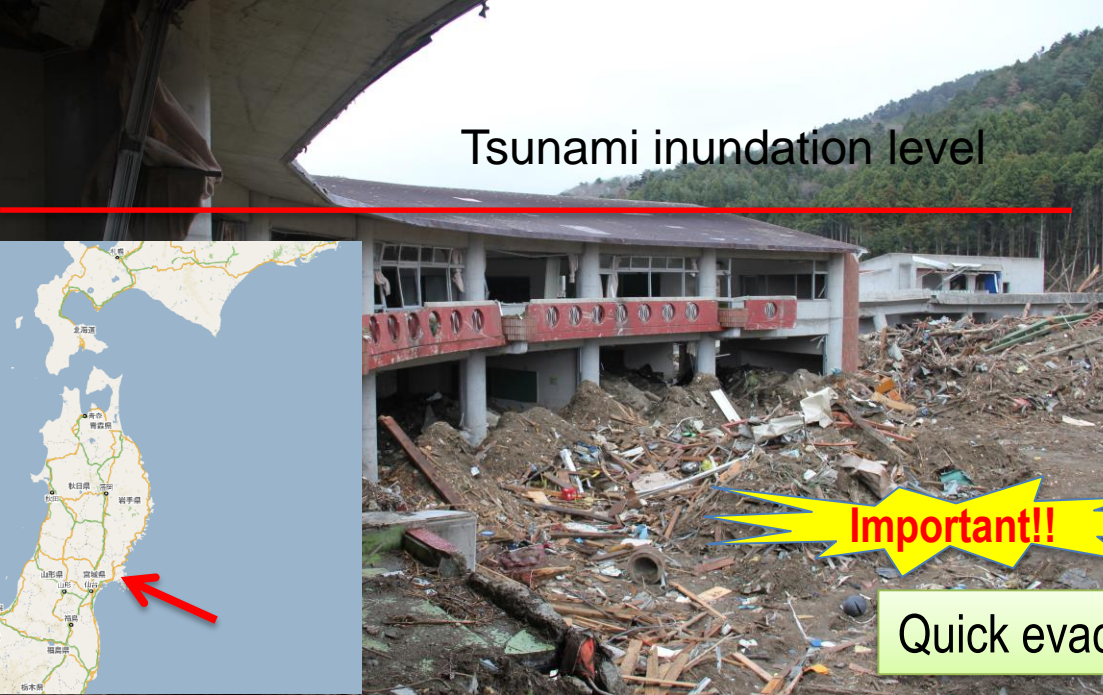


74 students killed, of 108
10 teachers killed, of 11

Okawa elementary school, Ishinomaki city



Tsunami inundation level



Students were unable to use the time for evacuation when tsunami reached to their school 50 min after the earthquake

Unfavorable conditions:

Location

No roof to climb up

No route to the hill behind

No evacuation plan for tsunami

Important!!

Quick evacuation based on a daily preparation

Tsunami attacked but the saved life

↓ All Saved

Tsunami inundation level



Yoshihama elementary school
Ishinomaki city

Objective of the research

- Current supplementary books are insufficient to fully cultivate disaster reduction response capability.
- This research **verifies the response capability** of children in the middle of growth curve with high curiosity and ability of assimilating knowledge, by providing education program which enable them to **take appropriate action** and **improves disaster reduction capability** when disaster happens.
- Keywords: Judgment capability, Response capability,
Enjoy learning

Appropriate action during disaster

1. Understanding and provision of knowledge

Do not limit to certain area or disaster

2. Improvement of judgment capability under various circumstances

Capability to recognize the danger and make decision within appropriate choices came up by logical imagination rather than recollection of memory.

3. Practical research methodology which enables to understand various roles and situation.

Subject of the research: upper grades primary school and middle school students.

Research method (Education program)

Target: elementary school and middle school students

Practical method

(1) Understanding and provision of knowledge:

Explain the mechanism of the nature itself and the occurrence of disaster

(2) Improvement of judgment capability in participatory education:

Play an evacuation simulation game in groups using a tool which assists the supplemental reader.

(3) Measurement of effect:

Conduct a survey of the students at pre and post game.

What is the difference between
“Wind wave” & “Tsunami”?



YUI project is starting!

- Elementary school : 5th grade = 70 schools
3,924 students (1,095 done)

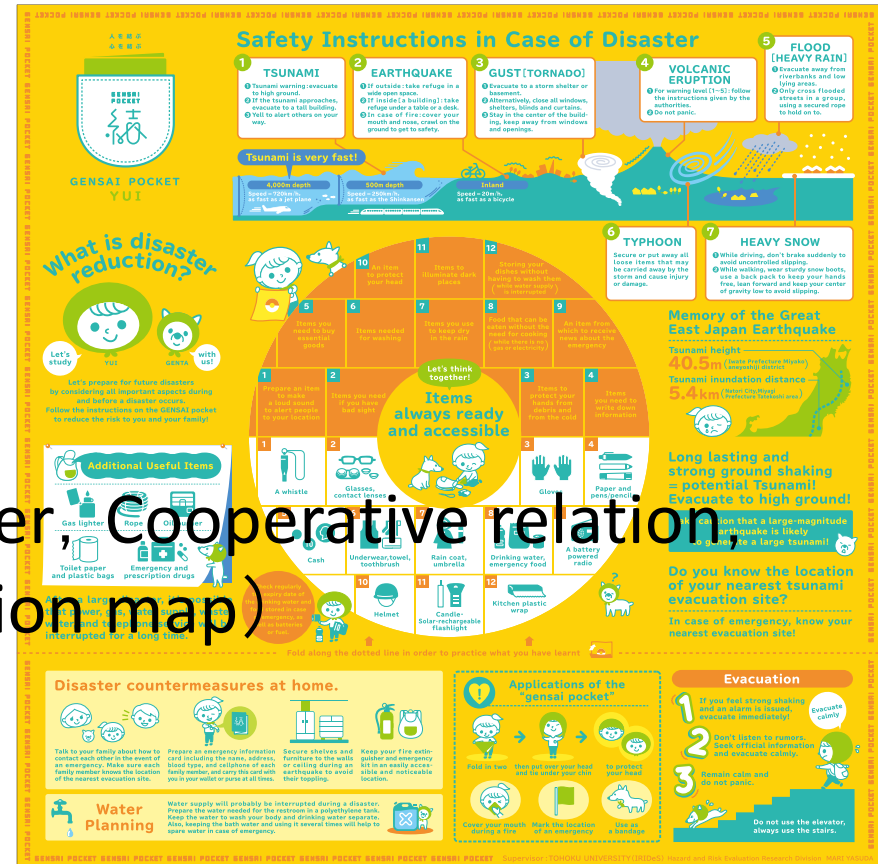
1. Lecture

2. Group work

- Team work (Leader, Supporter, Cooperative relation, Discussion), Result (evacuation map)

- Game : Gensai handkerchief

3. Group presentation



Scenery of a visiting lecture

1. Lecture (knowledge)



Conclusion : Protect our life by ourselves
Protect our families and friends after
ensuring our own safety

4. Presentation



2. Group work



(in Thailand)



Sunset beach & Ala Wai elementary school (in Hawaii)



Tsunami Propagating over the Pacific Ocean

The sea is linked

0hr00m

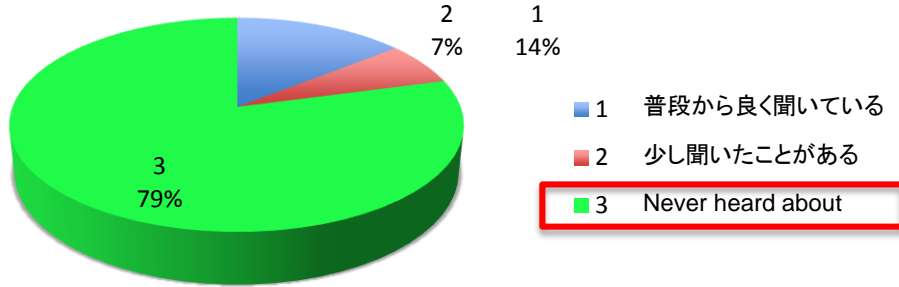


In average, natural disaster affect 160 millions people are hit and kill **0.1 million** people every year

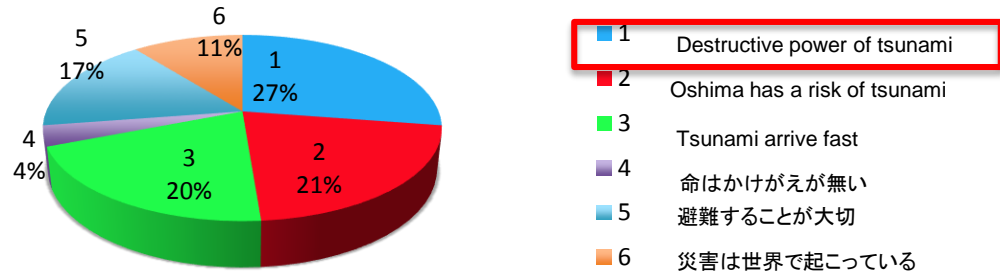
In latest tenyears years, the number of times of generating and damage of the natural disaster have increased 3 times.

Questionnaire results

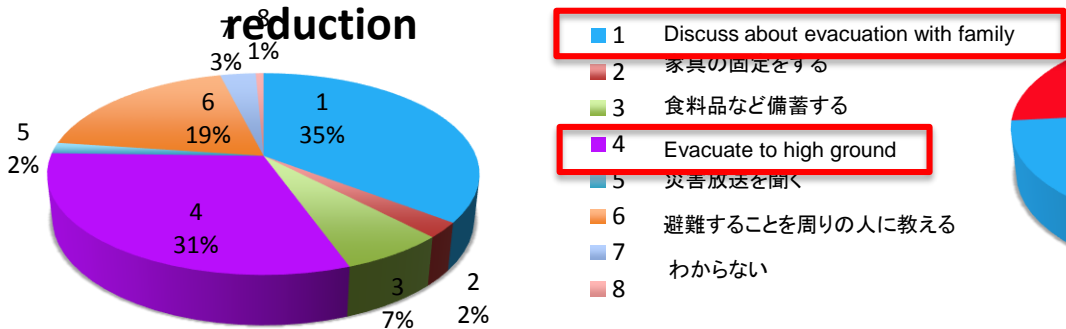
Tsunami knowledge



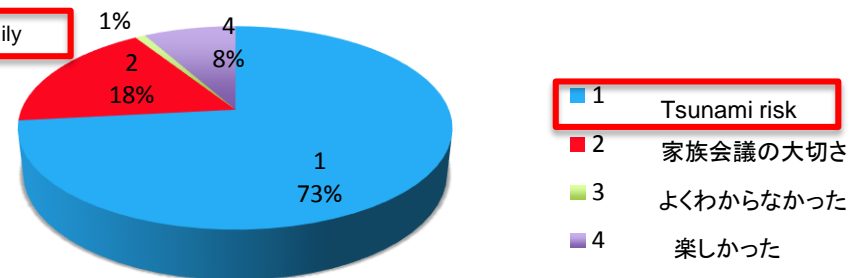
Impression from the lecture



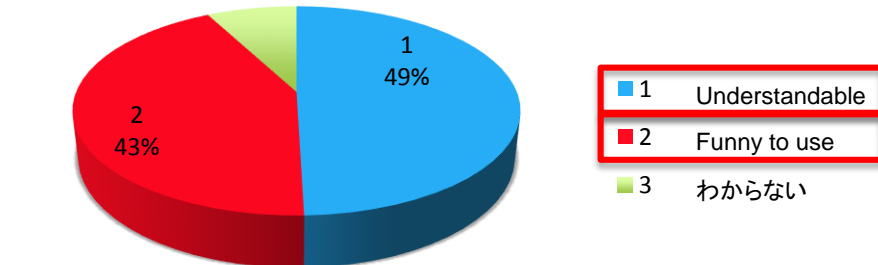
What could help for disaster reduction



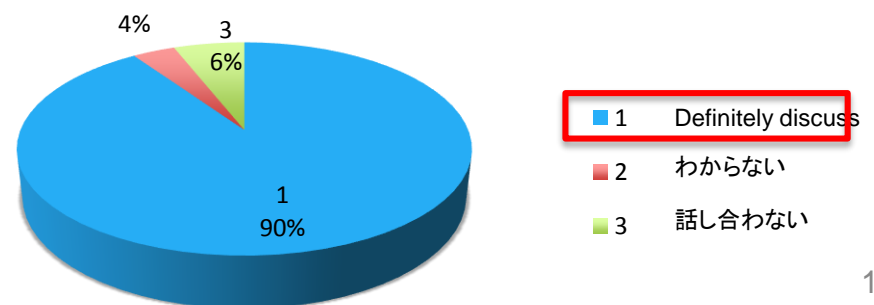
Impression of the class



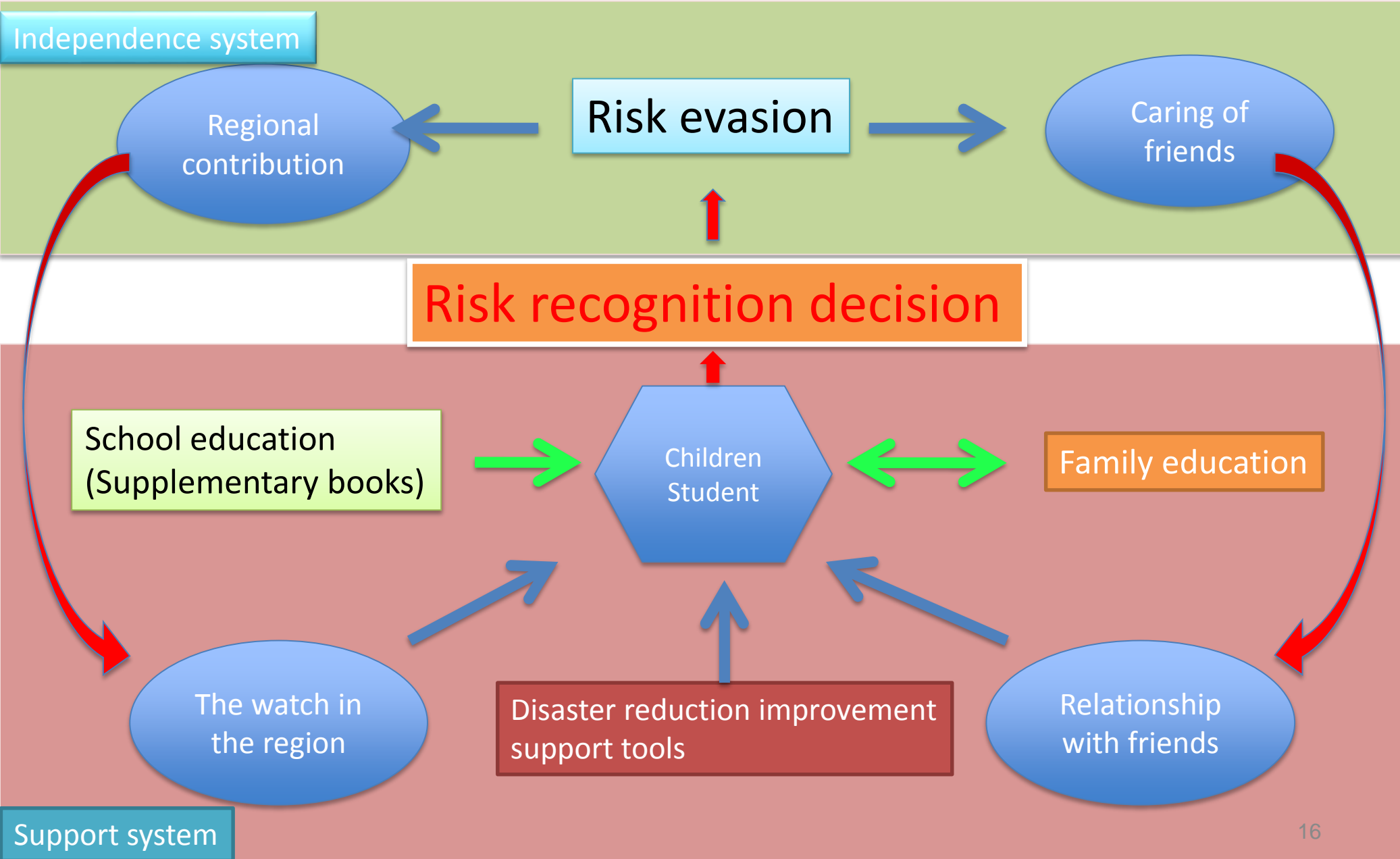
Impression of the teaching materials



Will you discuss with your family?



Loop of practical disaster reduction



Evaluation and conclusion

Yes, I can do it by myself.

- More than half of students believe that they should protect their life by themselves after listened to the lecture and played the game.
- The program helps children to improve their recognition as well as imagination and capability to react to the disaster. It is also expected the program cultivates the quick judgment capability.
- More students started to check their evacuation route/place and talk more often about disaster with their family

• **Future expectation: to improve disaster awareness of children and generate ideas and action forces with the right quick decision for disaster risk reduction**

震源が浅くてマグニチュードが大きい地震は津波に警戒を!!

Be aware of tsunami in case of shallow earthquake epicenter with large magnitude.



Tsunami Engineering
Sendai, Japan

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Learning from the Great East Japan Earthquake

**Survive to protect your dearest person .
Tsunami disaster is low frequency disaster.
So don't forget to continue practice for GENSAI.**

A photograph taken from an elevated position, likely a school balcony, looking out over a schoolyard. In the foreground, a dark metal railing is visible. Below the railing, a concrete staircase leads down. The middle ground shows a large, open schoolyard with a dirt or sand area. In the background, there are trees, a fence, and several buildings, including a school building with a blue roof. The sky is clear and blue.

Hashikami Elementary School

Kesennuma city, Japan

On the day of the Great East Japan Earthquake,