About Earth Science (ERS) at KVIS

Background: A minor subject at senior high school level, also even at junior high level.

Issue: Focus on two months; only target on SOLID EARTH (Meteorology and Astronomy are omitted)

Contents: Minerals, Rocks, Geology, Earthquakes & Volcanoes to Plate tectonics, Geo-History

Basic course (August) + Advanced course (September): The latter treats high level contents.

Features: The philosophy of Earth Science to the Thai students who will become scientists.

Features: Thailand lacks earthquakes and volcanoes except severe floods. However, we introduced earthquakes and volcanic eruptions (Japan and the world) to talk global tectonics and geo-history.

Point: Showing real rocks and fossils, experiments, observations and excursions based.

Co-operation: That chemistry teacher, Dr. Janjira Maneesuwan, as a counterpart of the CP teacher, attended class all time, helped me and took book videos (The left side women in the right photo).

Earth Science Olympiad: Mr. Kanatari Tanjongkamawasuk (M6 student) got the silver medal 2017.

About Author: Recruited by KVIS at T3-SIF2016 accidentally. The first time to lecture foreign students in English

Lecture Topics & Assignments

Target: M6 students; 4 periods/week x 4 classes = 16 p/w

Contents

Basic course

All Textbooks, Exams, QUIZZES, REPORTS & EXERCISES

Right Table: Advanced course

Room: Classrooms instead of science labs.

Lecture: PPTs and resources

Textbook: In the library

Exp & Obs: Earthquake epicenter, magnitude, O-R law, Fault exp. Basalt NRM, etc. (see right photos)

Controversy Titles: Earthquake prediction, Dinosaur extinction, Climate changes

Reports: 3 times reports (right table)

Final score: exam (70%) + attendance (10%) + reports (20%) (CP teacher)

ERS Class Photos

Evaluation & Discussions

Our ERS class was finally evaluated by the exam scores and the questionnaire results.

(Recovery rate of questionnaire: 69%)

The final exam level: Same as a Japanese SSH level (choice 60% describe 40%)

The final exam score histogram (right upper figure, 100 points conversion):

-> Seems to be a similar distribution in my SSH in Japan.

The final questionnaire results (lower right figure), the 1st Qd results are omitted. A

Free described: Most impressive topic? (fields, number)

Earthquakes related
14

Disasters and hazards (including Po-Kornation)
9

Climate change (including "renewed Earth")
7

Rocks and minerals
6

Mathematical models
3

Volcanoes and eruptions
2

The student reaction seems to be positive for our ERS class as a whole.

The volcanic eruption and related fields does not inspire Thai students strongly, although the spending much video watching or detailed explanations.

On the other hand, the interest for earthquakes was still high level.

This is because, a lack of active volcanoes in Thailand, we only used videos, while with many exercises, as earthquake related materials our students.

Also, we had a special lecture about 1995 Kobe and 2011 Tohoku earthquakes.

A couple of students told me the lecture was very impressive.

The further study will treat severe floods or tsunami common in Thailand.

Miscellaneous

Misc. resources: left: example pages of final exam. Right: A classroom photo in September

In Thailand, there is the consecutive exam for students. However, the students take only one month extra learning in high-school for three years, they got their draft exemption. In September 2017, they had school class only morning. In the afternoon, the boys went to military training by bus and the girls took volunteer activities every day.

In addition, my stay in KVIS was also shown at the above author's personal site. (In Japanese)

Acknowledgement

Video of each lecture were taken by Okho Chemistry teacher. Dr. Ayaka Moriwaki, who freely attended our class. Check on my stay at KVIS, my Facebook, my Instagram, my Twitter account. See the above information also on my web site http://www.okisho.org/}

References & Acknowledgements


