Research Title : A comparative study of Present Science Education in Secondary Schools of Japan and Thailand.

Author : Miss Unchalee Sirinvaravong

Position : Assistant Professor

Department of Secondary Education, Faculty of Education, Chulalongkorn University

Office : Demonstration school, Chulalongkorn University

Sponsor : National Research Council of Thailand. Scholarship for Research Exchange on Scientific Cooperation Program between Thailand and Japan (NRCT-JSPS), Year 1991

Abstract

Purpose:

1. To study science education trends in upper secondary schools of Japan and Thailand concerning:

-Science policy relating to the course of study, curriculum, regulations and science museum.

-The implementation of science education in each school.

-Teacher's professional performance.

-Teacher's personal profile.

2. To compare the trends in science education between Japan and Thailand.

3. To suggest improvements for science education in Thailand based on areas in which Japan's performance excels.

Procedure:

1. Selected 15 schools of upper secondary level in Japan and 10 schools of the same level in Thailand by cluster sampling. Interview selected curriculum planners and science educationists.

2. Collected information for the research study by:

-Gathering educational documents, records and reports.

-Questioning school science teachers by questionnaire.

-Interviewing and discussing with national curriculum planners, university professors, school principals and heads of school science departments.

-Observing for science education in the sample schools and the quality of science education as evidenced in science museums.

Results and Conclusions:

General speaking, there are more differences than similarities in the various aspects of science education between Japan and Thailand. The most obvious difference is that, Japan's science education curriculum is much more limited in terms of structure and objectives. As a result, the focus of course objectives are clear,specific and attainable. The two-curricular differ in structure. All Japanese students study the same basic

science courses with Chemistry Physics, Biology as a part of electives. In Thailand there are two different science curricular, one for Arts students and another for science students. For science courses in Thailand, the course objectives are stated in such ageneral way that their attainment can not be objectively assessed. The objectives are wider than Japanese's one. Another difference is that Japan's focus of science education is on natural science while Thailand's emphasis is on science and technology. The Japanese Government has issued some regulations to promote science education, but there are no such regulations in Thailand. There are many science museums in Japan for the promotion of science education, but there is only one science museum in Thailand.

In the schools, differences can be seen in the science classrooms, laboratories, instructional aids and school library. All Japanese school have similar facilities which are systematic, orderly and efficient. They even have special work rooms where science teachers can prepare their lessons. These facilities, as well as much more technologically advanced equipment, provide convinience and facilitate effective lerning. For most schools in Thailand, these features are inadequate, imperfect or completely lacking.

With regard to teachers' professional performances, Japanese teachers are involved in a more limited variety of teaching and learning activities than Thai teachers. They use fewer procedures. Thai teachers use many procedures, but don't emphasize

any special one. Most of these differences in performance between Japanese and Thai teachers are statistically significant.

Teachers' personal profiles are also significantly different with regard to sex, professional rank, subjects taught and years of sevice.