岡山大学
OKAYAMA UNIVERSITY

JSPS Core-to-Core Program
Formation of International Center of Excellence
to Promote Teacher Education on ESD

3rd Meeting of the Asian Network to Promote Teacher Education on ESD

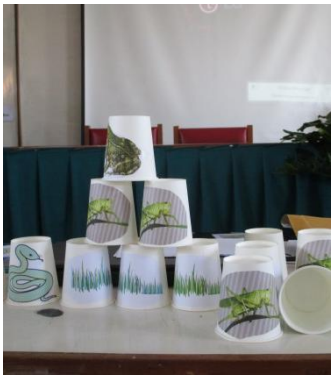
Meeting Abstracts

Okayama University
Okayama, Japan
March 4, 2018

Climate Change/Energy

Pre-service Teacher Training Program Focused on Renewable Energy, Woody Biomass (Japan)

Biodiversity



Trial of Junior High School Science Lesson on Ecological Pyramid (Indonesia)

SUSTAINABLE DEVELOPMENT GOALS

4 QUALITY EDUCATION

17 PARTNERSHIPS FOR THE GOALS

JSPS Core-to-Core Program
Formation of International Center of Excellenceto Promote Teacher Education on ESD

3rd Meeting of the Asian Network to Promote Teacher Education on ESD

Programs

Date: 4 March 2018
Venue: 4F First meeting room (404) ,Main building of Faculty of Education, Okayama University
http://www.okayama-u.ac.jp/index_e.html

4March (Sunday)	
9:30-9:40	Opening
9:40-10:30	Lecture 1 A challenge for promoting teacher education on ESD –Preservice teacher training at the Tokyo University of Agriculture and Technology Prof. Shinichi Fuhihata Tokyo University of Agriculture and Technology, Japan 
10:30-11:20	Lecture 2 From theory to practice – In-service teacher training for ESD in primary science education at Bremen University Prof. Brunhilde Marquardt-Mau Bremen University, Germany 
11:20-11:40	Refreshment
11:40-12:30	Report & External Review Progress of the JSPS Core-to-Core program“Formation of international center of excellence to promote teacher education onESD” Prof. Hiroki Fujii Okayama University, Japan 
12:30-12:40	Closing

Lecture 1

A Challenge for Promoting Teacher Education on ESD
- Preservice Teacher Training at the Tokyo University of Agriculture and Technology

Shinichi Furihata
Tokyo University of Agriculture and Technology, Japan

Environmental Education is an ongoing topic of discussion. In Japan, the terms Kogai Kyoiku (pollution education) and Shizenhogo Kyoiku (nature conservation education) were already in use and educative practices in this area were spreading before the term “environmental education” (translated as Kankyo Kyoiku in Japanese) became the standard, following the United Nations Conference on the Human Environment in 1972 and the Intergovernmental Conference on Environmental Education in Tbilisi in 1977. More recently, terms such as “education for sustainable development (ESD)” or “sustainability education” have gained in popularity. In this issue, we consider educational practices conducted under these alternative headings (Kogai Kyoiku, Shizenhogo Kyoiku, and ESD) to be part of the Japanese history of environmental education. This is in line with the argument made by Ando (2015), whereby the “history of environmental education” can be understood as “a process of ‘environmentalizing’ education”. Moreover, we understand that some environmental education practices are not even called “education”, especially when they are adopted outside formal educational settings. (Furihata and Ninomiya-Lim, 2017)

This presentation will be based on a flexible understanding of ESD so that the scope for discussion is not limited, and it will offer some views on the following topics:

- deficiencies in the discussion of today’s educational reform
- legal issues for ESD
- a case of teacher-training programs available in open-system teacher-training courses
- challenges in disaster resilience education in preservice teacher-training programs

This presentation will be from a unique viewpoint because the views discussed will be based on the presenter’s personal practice and background in environmental education, and it will include the daily challenges he has experienced in connecting environmental education and ESD.

Prof. Dr. Shinichi Furihata received his Ph.D. from Tokyo University of Agriculture and Technology, where he currently teaches as a professor. His research covers disaster resilience education and sustainability education. In 2016, he co-authored a book with his colleague for pre-service teacher trainees, entitled Teaching Theory and Practice for A Sustainable Future (published by Gakubunsha Co. Ltd.). He is Co-Chief Editor of a special issue, JJEE-EEA2016 which is a result of a 2-year collaborative project involving environmental education (EE) societies/ associations from Japan, Korea, Taiwan, North America, and Australia.
https://www.jstage.jst.go.jp/browse/jsoee/-char/ja

Lecture 2

From Theory to Practice – Inservice Teacher Training for ESD in Primary Science Education at the University of Bremen

Brunhilde Marquardt-Mau
University of Bremen, Germany

Education for sustainable development has become an important social policy instrument for shaping sustainable development since the United Nations Conference in Rio de Janeiro in 1992. Twenty five years later, in the second half of the "UN Decade of Education for Sustainable Development", further efforts within different educational contexts are still necessary. The UNESCO Global Action Programme (GAP) on ESD (UNESCO, Roadmap for Implementing the Global Action Programme on Education for Sustainable Development, 2014) has identified teacher education for ESD as one of the main areas to be developed. Questions like e.g.

- What professional competencies do teachers need in order to address questions of sustainable development? How can they be prepared for this task during their teacher training?
- What is the specific role of single subjects within the interdisciplinary concept of ESD?
- Which topics and methods are suitable for ESD in teacher training?
- How can ESD be implemented in the curriculum for primary science education at university level and which topics and methods are suitable?

The lecture covers these questions based on the ESD discussion in Germany and the experience on ESD in teacher training at the University of Bremen, Germany. The main focus will be laid on the results of the project "Inquiry based learning – topic renewable energy" founded by the German Federal Environmental Foundation (DBU).

Prof. Dr. Brunhilde Marquardt-Mau professional career started 1973 as research scientist at the Leibniz-Institute for Science and Mathematics Education (IPN) at Kiel University. From 2001 to 2014 she worked as Professor for „Didaktik des Sachunterrichts" (integrated subject in primay schools: science and social studies) at the University of Bremen, Germany. Her expertise is based on experiences in national und international contexts in early childhood and primary curriculum development, research and teacher training in science education and environmental education/ESD, including e.g. an interdisziplinary concept for environmental education, an encyclopedia „ecological knowledge" for teens, concept and screenplay (mother earth) for a television series on environment and a development research project about „Inquiry based learning - topic renewable energy".

Report & External Review

Progress of the JSPS Core-to-Core Program "Formation of International Center of Excellence to Promote Teacher Education on ESD"

Hiroki Fujii
Okayama University, Japan

Education for Sustainable Development (ESD), in which UNESCO has taken the initiative since 2005, is now undertaken in the Global Action Program (GAP) on ESD, with the purpose of its worldwide spread. During this time, Okayama University has hold the only UNITWIN/UNESCO chair program on ESD in Asian countries and participates at the Okayama Regional Centre of Expertise on ESD authorized by the United Nations University, and has energetically promoted teacher education on ESD; it has developed its teacher training programs focusing on prospective teachers as well as teachers in schools, in liaison with the Associated Schools Project University Network (ASPUnivNet) organized by 20 universities in Japan to support UNESCO associated schools.

This research project "Formation of International Center of Excellence to Promote Teacher Education on ESD", supported by the Japan Society for the Promotion of Science (JSPS), aims to collaboratively develop guidelines and recommendations to reorient teacher education in Asia to address sustainability, coordinating with core institutions on teacher education in East Asia (China, Japan, Korea, and Mongolia) and Southeast Asia (Indonesia, Laos, and Myanmar). About 50 members of the project are now tackling to collaboratively develop teacher training programs on ESD based on lesson study and to propose their Asian standards. On the basis of the development of the programs, we pursues to establish core institutions on ESD, construct academic networks among each institutions, and to train researchers on ESD of future generations. In line with the execution of the project, we have been holding international meetings, such as 1st meeting at Okayama and Kyoto, Japan, in June 2017, 2nd meeting at Ulan Bator, Mongolia, in November 2017, and 3rd meeting at Okayama, Japan, in March 2018.

Prof. Dr. Hiroki Fujii is a professor of science education in the Graduate School of Education at Okayama University and the director in Okayama University ESD Promotion Center, Japan. He graduated from Hiroshima University, Japan and after studying in Leibniz-Institute for Science and Mathematics Education (IPN) at University of Kiel, Germany received a Ph.D. in historical study of didactics in chemistry. His major area of work is design and development of school science (chemistry) curricula and lessons to promote students' scientific literacy. He had served on the executive board of the East-Asian Association for Science Education (EASE) during 2011 to 2015. Fujii is currently interested in researching science lessons and science teacher training incorporating sustainability education. He organizes a joint research project among Asian seven countries, entitled "Formation of International Center of Excellence to Promote Teacher Education on ESD", supported by the Japan Society for the Promotion of Science (JSPS).
http://ceteesd.ed.okayama-u.ac.jp/