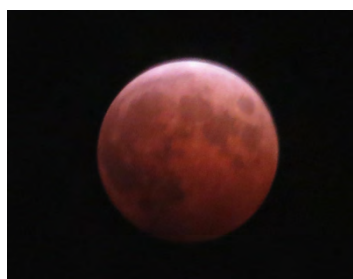
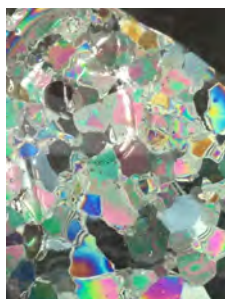


The 26th HU-SNU Joint Symposium

2023 HU-SNU-NTNU-KU Joint Symposium for Science Education

Science Education for Sustainable Development
in an Aging Society with Low Birthrate



Hokkaido University
Sapporo, Hokkaido, Japan
November 16-17, 2023



ORGANIZER and Co-ORGANIZERS

- Faculty of Education, Hokkaido University, Japan
- Open Education Center, Hokkaido University, Japan
- College of Education, Seoul National University, Republic of Korea
- Science Education Center, National Taiwan Normal University, Taiwan
- Graduate Institute of Science Education, National Taiwan Normal University, Taiwan
- Faculty of Education, Kasetsart University, Kingdom of Thailand

OVERVIEW of 2023 SNU-HU-NTNU-KU joint symposium for Science Education

Theme

Science Education for Sustainable Development in an Aging Society with Low Birthrate

Conference Dates

November 16th – 17th, 2023

Venue

Conference Room 305, Faculty of Education, Hokkaido University
Sapporo, Hokkaido, Japan

Organizing Committee

Eizo Ohno (Hokkaido University)

Katsusuke Shigeta (Hokkaido University)

Sonya N. Martin (Seoul National University)

Junehee Yoo (Seoul National University)

Chun-Yen Chang (National Taiwan Normal University)

Fang-Ying Yang (National Taiwan Normal University)

Pattamaporn Pimthong (Kasetsart University)

Akarat Tanak (Kasetsart University)

Program at a glance

November 16th (Thu)

Opening & Small talk about field research
Field research at T-base 北海道高等学校遠隔授業配信センター
Lunch & brain storming
Session 1
Session 2
Tea break
Session 3

November 17th (Fri)

Session 4
Tea break
Session 5
Lunch
Poster Session
Session 6
Tea break
Session 7
Closing

	18:00	
	19:00	
Conference Dinner	20:00	
	21:00	

Workshop Program

Aural and Poster Presentations

Session 1. Open ∪ Online ∪ Digital

2:00 p.m. – 2:20 p.m.

Katsusuke Shigeta

Educational Research at the Center for the Open Education at HU

2:20 p.m. – 2:40 p.m.

Huazue Sha

Relations Between Participation in Peer Review and Learning Outcomes in Online Learning

Session 2. Digital ∩ Privacy ∩ Inclusion

2:40 p.m. – 3:00 p.m.

Mohammed Galib Hasan Abir

Acceptance of Student Data privacy in Japanese Higher Educational Institution: A case study in Hokkaido University

3:00 p.m. – 3:20 p.m.

Suyeon Kim, Heesoo Ha and Sonya N. Martin

Inclusive Science Education: Exploring Disabled College Students' Perspectives and Experiences within a Critical Disability Theory Framework

Tea Break (20 min.)

Session 3. ICT → IoT → AI

3:40 p.m. – 4:00 p.m.

Juyeon Lee, Hye-Eun Chu, Kieun Eom, and Sonya Nichole Martin

Enhancing Digital Science Text Reading Literacy (DSTRL) for Marginalized Learners: Development and Evaluation of a Customized Program

4:00 p.m. – 4:20 p.m.

Ping-Han Cheng

Requirements-Action-Reflection Cycle for issue-based learning: A Board Game for Net Zero Emissions

4:20 p.m. – 4:40 p.m.

Seok-Hyun Ga, Kieun Eom, Juyeon Lee, Suyeon Kim, Chun-Yen Chang, and Sonya Martin

Enhancing science lab activities using Arduino with IoT

4:40 p.m. – 5:00 p.m.

Juyeon Lee, Seok-Hyun Ga, Kieun Eom, Suyeon Kim, Chun-Yen Chang, Sonya Nichole Martin

Bridging the digital gap in science education: Development of an IoT-based climate change education program for SDGs

Session 4. AI → Teacher education → Beyond

9:00 a.m. – 9:20 a.m.

Hee-Kyung Park and Sonya N Martin

Exploring the Role of ChatGPT in Science Education: A Systematic Review

9:20 a.m. – 9:40 a.m

John J. H. Lin

The role of artificial intelligence in science education: A pragmatic perspective

9:40 a.m. – 10:00 a.m.

Kittipot Konsanthia and Akarat Tanak

Digital competence of science teachers in secondary schools, Thailand

10:00 a.m. – 10:20 a.m.

Junhee Yoo, Yun Joo Yoo, Gyeongmo Min, Hyowon Wang, Sangyeon Jo

Teacher Professional Development in AI Integrated Education: Learning from Two Year Running Graduate Courses for In-Service Teachers

Tea Break (20 min.)

Session 5. {STEM ∪ Teachers} ⊂ Industry 4.0

10:40 a.m. – 11:00 a.m.

Pattamaporn Pimthong

Advancing integrated STEM learning for primary students through STEM partnership: A case study

11:00 a.m. – 11:20 a.m.

Akarat Tanak and Suppalerk Tanak

Incorporating Entrepreneurship into STEM Education for Enhancing Students' Innovative Design

11:20 a.m. – 11:40 a.m.

Marison Sudianto Manalu and Chun-Yen Chang

Unlocking the Power of Technology in Education: A Comprehensive Exploration of Indonesian Teachers' Technological Pedagogical Content Knowledge through Epistemic Network Analysis

11:40 a.m. – 12:00 a.m.

Suphanwadee Prasong and Akarat Tanak

Thai STEM Teachers' Perspectives on Integrated STEM

Lunch

Session 6 Poster presentations

Yu-Hsuan Chien, Shih-Chao Yeh, and Chun-Yen Chang

The Development of Science Inquiry Ability as an Online Test

Shih-Chieh Chien and Fang-Ying Yang

An e-platform for science reading and attention exploration

Ming-Ching Lin, Motoko Okumoto, and Chun-Yen Chang

A possible new channel to promote teachers' gender awareness: Starting from informal education fields

Masanori Sato and Eizo Ohno

Development of "Web Mimamori System" to keep children safe online

Kieun Eom and Sonya Nichole Martin

Evaluating the Impact of Curriculum Shifts on South Korean Science Education and Private Tutoring: A Preliminary Study With a Focus on Equity

Session 7. {Design → Assessment → Evidence} ∩ Inquiry

2:20 p.m. – 2:40 p.m.

Suttikan Lakanukan, Pongpapan Pongsophon, and Chatree Faikhamta

Extracting Experience in Teaching Design Thinking of Secondary Science Teacher for Teachers' Professional Development Guiding

2:40 p.m. – 3:00 p.m.

Fang-Ying Yang, Wan-Yu Tseng, and Chia-Hui Cheng

Structural analysis for high school students' conception of science learning, science learning self-efficacy and science achievement

3:00 p.m. – 3:20 p.m.

Dadan Sumardani and Chun-Yen Chang

The modified physics course significantly improved students' scientific inquiry skills ($p < .05$): Making meaning of the Bayesian inference

3:20 p.m. – 3:40 p.m.

Chun-Yen Chang

An interdisciplinary study on science inquiry ability

Tea Break (20 min.)

Session 8. Socio- {Collaboration ∩ Discussion}

4:00 p.m. – 4:20 p.m.

Sunghee Kim and Soo-Yean Shim

Toward collaborative positioning in small groups: Exploring socio-scientific norms, positioning, and participation in scientific practices

4:20 p.m. – 4:40 p.m.

Miao-Hsuan Yen

Myside bias regarding socio-scientific issues

4:40 p.m. – 5:00 p.m.

Saya Mori

Organizing and Discussing Family Learning in Museum Education Research