

2017 EASE Summer School held at Shaanxi Normal University

EASE 2017 Summer School was successfully held in Shaanxi Normal University, Xi'an, Shaanxi Province, PRC, on 09~14 July, 2017. Xi'an is one of the oldest cities in China and the oldest of the Four Great Ancient Capitals of China. The Laboratory of Modern Teaching Technology of Shaanxi Normal University is currently the only key laboratory of teaching technology supported by the Ministry of Education of China. The EASE Summer School aimed to provide valuable opportunities for sharing research experience and developing future research collaboration among Ph.D. students from EASE constituent regions.

(Detailed in Page 2)



Becoming a part of the PCK community From a doctoral student working on PCK to a PCK summit member

What do teachers need to know and be able to do so that their students can learn science meaningfully? How can a science teacher develop into an expert teacher that is effective in enhancing student learning? Why do some science teachers develop into expert teachers while some time-served teachers still remain novice in their science teaching? These are questions I have been wondering since I started my career as a secondary school science teacher. To answer these questions, I ventured into my PhD journey. My doctoral study focused on experienced teachers with the goal of uncovering how they can draw on their prior teaching experiences to develop new teacher knowledge (Chan & Yung, 2015, 2017). I took the challenge of trying to unfold the secrets.

(Detailed in Page 12)

Upcoming conferences

January 25-27, 2018 **International Conference of KASE** in Yongin, Korea

June 19-21, 2018 **International Science Education Conference** in Singapore

November 21-23, 2018 **The 4th Asian HPS&ST Conference** in Hualien, Taiwan

November 23-25, 2018 **EASE & ASET Joint International Conference** in Hualien, Taiwan (Detailed in Page 21)

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2017 EASE Summer School held at Shaanxi Normal University

Zhanglin LI
Shaanxi Normal University

EASE 2017 Summer School was successfully held in Shaanxi Normal University, Xi'an, Shaanxi Province, PRC, on 09~14 July, 2017. Xi'an is one of the oldest cities in China and the oldest of the Four Great Ancient Capitals of China. The Laboratory of Modern Teaching Technology of Shaanxi Normal University is currently the only key laboratory of teaching technology supported by the Ministry of Education of China. The EASE Summer School aimed to provide valuable opportunities for sharing research experience and developing future research collaboration among Ph.D. students from EASE constituent regions.



Twenty-five Ph.D. students from five regions, including China Mainland, Taiwan, Hong Kong, Japan, and Korea, participated the activities. The students were divided into five groups and each group consisted of five students from five different regions. During the five days, each group was supported by a scholar who worked as a coach to guide group discussions. There were two types of group discussions: dissertations and collaborative proposal. A discussion on dissertations lasted for about 90 minutes, focusing on a student's ongoing research. Everyone in the group shared his/her questions/comments/suggestions with the group members to improve the present research. The purpose of discussing collaborative proposals was to enable students to develop cross-regional collaborative research proposals under the multicultural background in East Asia. The scope of the proposal had to cover general science education issues in Asia, and involve effort and specialty from each student. Each group had three sessions of discussing the collaborative proposal.

As the host of this summer school, Prof. Weiping Hu, the Director of the Laboratory, and his colleagues Mr. Baojun Wu and Ms. Zhanglin Li, made a perfect arrangement for the participating professors and students. Prof.

Baohui Zhang, Prof. Yoshisuke Kumano, Prof. Sung-Won Kim, Prof. Mei-Chun Lydia Wen, and Prof. Zhihong Wan efficiently coordinated the participants from Japan, South Korea, Taiwan, Mainland China, and Hong Kong. In the Summer School, five senior researchers, Prof. May Cheng, Prof. Yoshisuke Kumano, Prof. Weiping Hu, Prof. Sung-Won Kim, and Prof. Jin-Wen Lin, shared their research experience with research students. Prof. Silvia Wen-Yu, Lee, Prof. Minsu Ha, Prof. Yamashita Shuichi, Prof. Baohui Zhang, and Prof. Zhihong Wan collaborated with the five senior professors to facilitate students sharing of their own work and generate joint research proposals. The proposal written by Ms. Nuo Li, Mr. Tomotaka Kuroda, Mr. Shian-Jang Wang, and Mr. Salah Ahmed finally won the Award of Best Proposal. Prof. Weiping Hu and his colleagues also kindly led us to visit their equipment and research work of their Laboratory.



The EASE Summer School invited five professors to share with students their experience and works in science education. Every professor gave one lecture. Here were the professors and their topics:

Professor	Topic
Prof. May Hung May Cheng (Hong Kong)	Considering the Impact of Science Education Research
Prof. Yoshisuke Kumano (Japan)	Researches and Practices of STEM Learning and Education
Prof. Sung-Won Kim (Korea)	The Educational Implications of the Fundamental Physical Constants
Prof. Jing-Wen Lin (Taiwan)	Reconstructing and Validating the Evolutionary Pathway of Student Mental Models: A Cladistical Approach
Prof. Weiping Hu (China Mainland)	Theory and Practice of Thinking-Based Classroom Teaching

In the Summer School, students and coaches also visited the key laboratory of the Department of Modern Teaching Technology Education of Shaanxi Normal University. The laboratory situates in integrated science to study teaching and learning, creativity and teacher development as the focal points of research. All participants were greatly impressed by the first-class facilities and advanced teaching philosophies of the laboratory.

2017 EASE Summer School was wrapped up successfully. Prof. May Hung May Cheng, the chairman of EASE, and the Associate Vice President (Academic Affairs) of the Education University of Hong Kong. She spoke highly of the careful preparations and warm receptions by the organizer Prof. Weiping Hu and his group. The Summer School featured experts and doctoral students of science education from five different regions of East Asia; and the discussions, cooperation, and communication among them generated fruitful results that contributed to better science education, regional friendship and partnership in East Asia.

Reflections about 2017 Summer School: Unforgettable moment with great friendship in EASE

Pingting LIN

Laboratory of Child Development and Learning Science Southeast University

EASE 2017 Summer School was successfully held in Shaanxi Normal University, Xi'an, Shaanxi Province, PRC, from 8th to 11th July, 2017. Xi'an is one of the oldest cities in China and the oldest of the Four Great Ancient Capitals of China. The Laboratory of Modern Teaching Technology of Shaanxi Normal University is currently the only key laboratory of teaching technology supported by the Ministry of Education of China.

As a Summer School member from Nanjing, the direction of science education from Southeast University, I was very honored to be invited to attend the EASE Summer School 2017 held at the Shaanxi Normal University on 08-15 July, 2017. The EASE Summer Schools aimed to provide valuable opportunities for sharing research experience and developing future research collaboration among PhD students from EASE constituent regions. During the 5-day school, senior professors shared with students their experience and work in science education. Students from different regions formed 5 groups and each group of students were supported by a scholar when they were discussing their dissertations and developing cross-region collaborative research proposal. A total of 25 doctoral students, 5 coaches and 6 professors from five regions in East Asia divided in 5 groups to conduct within-group communication.

In the evening of the arrival day, the Education department of Shaanxi Normal University arranged a warm welcome dinner, so that our members can get better acquainted in a very relaxed occasion. Shoko from Shizuoka University, Japan; Chanmi from Korea's Ewha Women's University; John of Taipei Normal University from Taipei and Xin Shou in Shaanxi Normal University compose group 1. In the opening ceremony, Prof. Yoshisuke Kumano, a professor at the Shizuoka University and Vice Chairman of the EASE, delivered an opening speech, followed by a welcoming speech by Prof. Weiping Hu.

During the meeting, five professors conducted five academic reports for the PhD trainees. The study of "Reconstructing and Validating the Evolutionary Pathway of Student Mental Models: A Cladistical Approach" conducted by Lin Jingwen, the professor responsible for our group, impressed us the most. She used the concept of biological evolution to reclassify the psychological model of students in the use of computer algorithms to find the way students "evolved" from having the wrong concept to building a scientific one. Exquisite and rigorous reports gave far-reaching inspiration to our traditional science education research. We also learnt that today's science education research is the multi-disciplinary integration of new methods and new content.

Each group was made up of 4 to 5 students, 1 coach and 1 to 2 professors. Each student's doctoral thesis was discussed by turn within groups and a joint research program was completed. I really appreciated for the guidance of our group Professor Minsu Ha. He gave my research several practical advices; Professor Lin also provided some detailed and in-depth information for my own personal situation about the doctoral career planning and future research direction. More fortunately, Dr. John's major direction is as the same as mine. Through his well-known research, I could get an example of how to do a solid research.

In the collaboration part, our team members often discussed till late into the nights to optimize the details, hoping to make full use of the advantages of the multi-regional and multi-research direction within the group, to form an interdisciplinary, cross-regional and practical study. After two days of intensive preparations, we produced a satisfactory study design of investigating "How do science teacher's skill influence on student's performance in scientific literacy?". Other groups chose STEM-related themes of their research designs tacitly, also vividly displayed their design.

In addition, under the arrangement of the teacher Zhanglin Li of Shaanxi Normal University, we visited the key laboratory of modern teaching technology Ministry of Education. The laboratory is composed by four aspects of research: the cognitive neuroscience and learning; teaching psychology and creativity; information technology and

teaching; technology integration and application. Display of laboratory experimental facilities and equipment impressed everyone deeply

During the five days of the school, our group built very strong cooperation and friendship among enthusiastic and generous Chanmi, action-oriented John, initiative Shoko, etc. Although we have returned to our universities after the summer camp, we still work together in the same field of science education! We sincerely hope that every member of our Group1, 2017 EASE will go further on the road of scientific education research.



Reflections about 2017 Summer School:

Impression on 2017 EASE Summer School in Xi'an

Joonyoung CHOI
Seoul National University

The 2017 EASE summer school in Xi'an was so impressing. First of all, the sessions in which we doctoral students could propose our doctoral dissertations really helped us to conduct research. Before coming to Xi'an, it had made me think about my research more deeply to prepare for the doctoral proposal in EASE summer school. It had led me to organize what I had done so far and what I had to do in the future. Comments from professional and experienced coaches helped me decide the research direction. Moreover, I learned the perspectives on teaching and learning of science in East Asia from various science education researchers.

Second, the professors' lectures taught me a lot. I learned what representative East Asian science education researchers were doing and focusing on, which broadened my horizons.

Third, the summer school gave me a chance to meet colleagues conducting science education research. Doctoral dissertation proposals and our collaboration made us understand what was common or different between us. Based on our understanding of each other, we worked on science education research. Until now, I am keeping in touch with them by using e-mail, wechat, and so on. Sometimes we exchange feedback on proposals.

Last, Xi'an was beautiful. My memory was filled with blue sky and many scenic spots in Xi'an. Furthermore, Dr. Li Zhanglin and the organizers prepared a lot of things. I really thank them for their kindness and effort. I also thank the committee of EASE (summer school) for organizing this important event.

Reflections about 2017 Summer School:

Epilogue for 2017 EASE Summer School

Chanmi JUNG

Ewha Womans University

To me, participating in 2017 EASE summer school was my great challenge. One of the biggest causes was my fear in English. For preparing this summer school, I had practised speaking English for 2 months, and then I could communicate with many foreign friends merrily. This experience makes me have more confidence in English. It was my first time to give an oral presentation on my own research in English for more than 30 minutes. Besides, I am not the kind of person who questions or comments in public. However, I did my presentation and active discussion spontaneously, and I think it was EASE magic. Through lectures by professors and the presentation of PhD candidates on various research topics, I have to be aware that I was a big fish in a small pond. Friends and professors having good competencies as a researcher motivated me. This summer school has given me opportunity to be more specific about my dream of becoming a global researcher. I have never had a foreign friend before. However, everyone I have met in this summer school was so open-minded that we were able to get close each other in a short time. I look forward to the day that we will meet again as great science education researchers. I got more than I expected from 2017 EASE summer school. I think it can be a turning point in my career. I sincerely appreciate everyone who contributed to make this summer school successful.

NARST 2017 Sandra K. Abell Institute

for Doctoral Students

Glocalization of Science Education: from Global to Local Science Education Perspectives

Yan WANG

University of Helsinki, Finland

The NARST Sandra K. Abell Summer Institute for Doctoral Students met in National Taiwan Normal University, Taipei, Taiwan from June 24-28, 2017. It was the fifth institute since 2009 and the first to be held outside the United States. The theme was Glocalization of Science Education: from Global to Local Science Education Perspectives. There were 35 doctoral students from 11 different countries and 12 mentors.

The National Association for Research in Science Teaching (NARST) is a worldwide organization of professionals committed to the improvement of science teaching and learning through research. It was established in 1928. Sandra K. Abell, the former president of the NARST, proposed the NARST Board a Summer Research Institute (SRI) for doctoral students, which was to be modelled after the European Science Education Research Association (ESERA) Summer School. It was first held in 2009 at the University of Missouri. The Summer Institute is held every other year. Professor Abell had passed away in August, 2010, leaving a large legacy to the science education research community. To memorize the initiator of the SRI, the Summer Institute in late 2010 was renamed as Sandra K. Abell. Professor Abell was a professor of science education, former president of the NARST, director of the Science Education Centre at the University of Missouri-Columbia. She devoted to improving science education research and believed that through dialogue with a community of researchers is the access. The renaming honoured Professor Abell and NARST's finest purposes.

The goals of the Institute, as stated in the program application, were to:

To bring together a focused and dedicated group of young scholars who have completed their basic research coursework, who have a clear idea of the direction of their project, but who also have room for change in an emerging proposal or early stages of research.

To offer doctoral student participants from around the world opportunities to build a global community of science education scholars, not only among the students, but also with internationally renowned scholars, as well as the NTNU community.

The design of the Institute included participation in Faculty-Guest Speaker Talks, Critical Friends' Groups, Workshops, Poster and Oral Presentations, Group Activities, Office Hour by appointments with different mentors, and Students Work on Proposal and Presentations. The informal opportunities for questions and networking continued during the meals, way to the venue sightseeing in Taipei and so on. There were a Facebook page and a whatsapp group for students to communicate.

At the Institute, the students were divided into six groups with six students in each group. Every group was assigned to a pair of mentors. The groups were divided according to the research topics. Mentors were internationally recognized science education scholars including Mary M. Atwater (University of Georgia), Mei-Hung Chiu (National Taiwan Normal University), Sibel Erduran (University of Oxford), Doris Jorde (University of Oslo), Rowhea Elmesky (Washington University), Joseph Krajcik (Michigan State University), Jing-Wen Lin (National Dong Hwa University), Shiang-Yao Liu (National Taiwan Normal University), Muhsin Menekse (Purdue University), Marissa Rollnick (Wits University), Christina V. Schwarz (Michigan State University) and Lei Wang (Beijing Normal University).



Figure 1 Photo of the doctoral students, mentors, and support staff 2017

The programme started with a brief introduction of the institute and 'Know your friends – Speed Dating Activity'. The atmosphere of the activity was nice and friendly. It accelerated the speed of knowing each other (see figure 2). This relaxed and engaged atmosphere had lasted the whole programme. In this atmosphere, the goals of the institute were met.



Figure 2 Know your friends - Speed dating activity

Academic achievement

The overall design of the Institute focused on the students' progress in their research process. The four Talks and three Workshops covered topics as follows: the fresh research or trends in science education, the tips on writing and justifying thesis, the theoretical and methodological aspects of research, publication, and research design and analysis.



Figure 3 Professor Sibel Erduran's Talk(left) and Professor Joe Krajcik's Workshop (right)

The activities in Critical Friends' Groups were one of the most insightful and main sections in the Institute. Six students and a pair of mentors constituted the group. The group worked together based on each member's individually, however, related topics. The mentors gave suggestions and guided the students during the group work. Peers offered comments and suggestions interactively from different perspectives. These activities facilitated the students either narrow down the research focus or broaden the horizon of the research. The critical friends in our Group 1 gave me excellent suggestions and hints to develop my research. For example, they offered researchers' names that may be helpful for my research. Moreover, students had independent working time to think further of their research and develop their proposal. During the work-alone time, the mentors and peers were aside to help.



Figure 4 Critical Friends' Group 1(left) and Poster Presentation with Our Group 1 (right)

The discussions with mentors in the original group and Office Hour by appointments with different mentor one-on-one were very useful, helping students think through different perspectives. The mentors helped students to go beyond a surface recognition and made students better understand how to improve the research. For example, my research is a comparative study of National Primary Curricula in Finland and China. I was intended to improve the structure and theoretical framework of the entire research. I received good suggestions from mentors in my group, Professor Joe Krajcik, Professor Jing-Wen Lin, and from Professor Lei Wang. They helped me rethink and further develop the research. For example, they suggest me to think the analysis from a historical perspective. Additionally, I was inspired and found interesting research topics in the future from the discussion with them. The final day included poster and oral presentations. The poster section accelerated the communication of the research among students from different groups. Students got useful suggestions from mentors and peers. Moreover, the oral presentation section 'pushed' students to rethink, organize and 'sell' their ideas and research to audience in 3 minutes. It also helped students, who are non-native English speakers, build confidence and conquer the fear of speaking in front of natives. Students could show the progress of the 5 days institute and learn to communicate ideas in academia.



Figure 5 Oral Presentation by the author (left) and a Scene of Oral Presentation in the Room (right)

Social achievement

The collaboration and communication took place not only in formal activities, but also during the informal time, for example at meals, on buses, in the dormitory, etc. Students, mentors, evaluators, and staff worked together and in a harmonious atmosphere. It was exciting to work and communicate with peers and mentors from different countries with different backgrounds. The Institute helped us build a global community, friendship, and mentoring relationship. This community will be long-lasting for the science education career and further. In addition, the Institute organized events to help foreigners know more about local culture in Taiwan.

The picture below was the concluding Q & A section and closing ceremony. Professor Mei-Hung Chiu played a lottery of three lucky students to win books published by her. To be one of the lucky students, I felt extensively happy and honored. I think it is important to take the responsibility to contribute to the research community.



Figure 6 Panel Discussion (left) and participant and Prof. Mei-Hung Chiu (right)

All the scholars were invited to the NARST 2018 Poster Session to present the processed proposal. The NARST 2018 will be held at March 10-13 2018. I am looking forward to the NARST 2018 conference and reuniting mentors and friends. I appreciated the experience in the Institute in Taipei. The academic journey in Abell Institute was unforgettable. Not only because it helped me progress the research and join the science education community, but also because it enabled me to communicate with people and build international network and friendship.

Becoming a part of the PCK community

From a doctoral student working on PCK to a PCK summit member

Kennedy Kam Ho CHAN

Faculty of Education, The University of Hong Kong

What do teachers need to know and be able to do so that their students can learn science meaningfully? How can a science teacher develop into an expert teacher that is effective in enhancing student learning? Why do some science teachers develop into expert teachers while some time-served teachers still remain novice in their science teaching? These are questions I have been wondering since I started my career as a secondary school science teacher. To answer these questions, I ventured into my PhD journey. My doctoral study focused on experienced teachers with the goal of uncovering how they can draw on their prior teaching experiences to develop new teacher knowledge (Chan & Yung, 2015, 2017). I took the challenge of trying to unfold the secrets.

The idea of the existence of a unique province of knowledge in teachers quickly attracted my attention when I was doing literature review for my doctoral study. The notion of pedagogical content knowledge (PCK), first proposed by Lee Shulman, was simple yet beautiful in making clear the professional knowledge of teachers. I particularly found this construct useful for analyzing the new topic-specific knowledge developed by the teachers I studied when they were teaching a new topic they had never taught before. The PhD study was a challenging yet fruitful as it shaped my thinking on what teachers need to learn in order to become an expert science teacher. For example, I started to realize how important it is to prepare teachers to capitalize on their moment-to-moment teaching experience to develop new PCK. I also see the importance of the need to nurture in them the dispositions to enact certain pedagogical strategies in the lesson planning to facilitate their PCK development. These insights are crucial for me who is now assuming the role as a science teacher educator who is charged with the responsibility of helping my student teachers develop new PCK for teaching every topic they are going to teach.



Figure 1 Group photo of the PCK summit 2 members

Although the notion of PCK is attractive, some scholars are skeptical about the usefulness of this construct (e.g. Settlage, 2013). Most of the critics deplored the multiple meanings of the term “PCK”. PCK researchers are well aware of this issue and tried to address this. In 2012, a group of PCK researchers met in Colorado and proposed a new ‘consensus’ model for teacher professional knowledge and skills including PCK to clarify some of the concepts around PCK (Berry, Friedrichsen, & Loughran, 2015). In December 2016, the second PCK summit was held in the Netherlands. The meeting brought together a group of researchers from seven countries. I was lucky enough to be invited as one of the participants. In the five-day intensive meeting, we shared how data were collected from our

PCK studies, the different kinds of instruments we used to collect these data, and the procedures we used to infer PCK from these data. The broader goal of the summit was to develop a shared set of criteria to identify PCK for each kind of instrument through collectively analyzing data that were obtained with the respective instrument. We want to make accessible and comprehensible these instruments, model to the wider PCK research community and reach consensus on a model of PCK that is strongly connected with empirical data of varying nature. The meeting also led to a revised version of the Consensus Model at the first summit in Colorado in 2012.

As an early career researcher, I benefited a lot from interaction with top-notch scholars in the field and their insights. Most importantly, I could feel I have become a part of the PCK community who shares the common goal of trying to better understand the professional knowledge of science teachers. We all see this as an important goal which has significant implications on teacher education. The insights from the summit will be documented in a book entitled 'Repositioning Pedagogical Content Knowledge in Teachers' Professional Knowledge'. I am sure you will find this book helpful if you also would like to become a part of the PCK community.

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News from Science Education Development Laboratory, Graduate School for International Development and Cooperation (IDEC), Hiroshima University, Japan

Kinya SHIMIZU
Hiroshima University

This is Kinya Shimizu from Hiroshima University in Japan. By taking this occasion, let me introduce the laboratory which focus on the science education in developing country in Asia and Africa.

The Graduate School for the International Development and Cooperation (IDEC) covers the area of international cooperation in peace, environment, and education. In our laboratory, there are students coming from various parts of Asia and Africa. Currently we have five students from Indonesia, two students from Cambodia, one each from Myanmar, Malawi, and Zambia; and three students from Japan. Since most of the students are international students, the main language we use in our laboratory seminars and in class is English.

The most serious problems that the developing countries are facing is a lack of understanding of the teaching contents, didactic teaching and a lack of materials. Although the teachers know attractive terms such as "student-centered approach", "constructivism", "competence-based curriculum", they do not seem to understand or apply these into their practices. We stipulate that teachers themselves do not have the experience of being taught by such pedagogies, and they cannot imagine how they can do it.

Therefore, in our laboratory, we introduce the good practices of Japanese science classes, as well as focus their research topic to science process skills and students' misconceptions. These topics direct our graduate student attention to students' mind. They start focusing on how student think, and then develop the practices based on students' cognitive process.

Our laboratory does not only accept students from students from Asia and Africa, and facilitate them to conduct research on science education in their own countries; we also conduct some projects for Japan International Cooperation Agency (JICA). For example, we are involved in the PEDP II project which is the Education Cooperation Projects in Bangladesh. In the project, we develop lesson plans for student-centered classrooms, analyze the science curriculum and observe the actual lessons. Furthermore, we provide in-service training for science educators from Zambia, Malawi, and some African Countries.

In conclusion, we are one of the unique science education laboratories which opens to the world. If you are interested in, please contact us!

Korean Teachers' role in the world: Educational volunteer activity in Tanzania

Yohan HWANG
Ewha Womans University

I visited Mwanza in Tanzania for the Tanzania Science Mathematics Teacher Workshop and student festival with 12 science and mathematics teachers from Korea from August 1 to 10, 2017. Our visit to Tanzania was an extension of our ten-year science teachers' volunteer scheme in East Timor. It was also the beginning of our new educational volunteer scheme in Tanzania. Chooryeong Kim (Madam Nzinga), who is a KOICA volunteer in Tanzania, planned and prepared this workshop in Mwanza. Our group were composed of some of the members from three major science teachers' associations such as Gakkum (Science teachers dreaming about values), Teachers for Exciting Science (TES), and 3S (Science Sharing for SARANG 'means love'). In addition, two mathematics teachers joined this group. The purpose of the workshop was to enable inquiry-based learning in a locally appropriate and sustainable way. Therefore, it was the ultimate goal to localize the materials and to allow Tanzanian teachers to conduct their own workshop sessions.



In order to prepare the ten days' workshop, we had met once a month for the last 12 months from October 2016. We had also communicated with Tanzanian teachers through the social media called whatsapp and facebook for 9 months for the localization and the subjective operation of the local teachers. In the town of Mwanza in Tanzania, the Science Teachers Association of the 'Hands-on Science Organization Tanzania (HSOT)' was in operation for three years. The workshop was organized with HSOT selected TOTs (teachers of teachers) and math TOTs that began to work together for workshops. Of course, it was not easy to communicate because of time difference and language barrier. However, we tried to talk about the suitability of the operation in Tanzania through guidance on the subject and contents of the lessons, and share photographs of local materials. In this process, there were many problems such as communication problems, non-suitability of materials, materials not available in Tanzania, and budget problems. However, Tanzanian TOTs strived to get the best out of the materials centered on Dan Kitambala

(a HSOT leader). In this process, they also felt that they will be able to do inquiry classes using various materials which are available locally.

On August 4, about 200 students from high schools in the Mwanza participated in the science festival. We operated 13 booths and the students were able to experience six of them in four hours. The students were very excited about the new science experiments and the activities related to Korean traditional culture. One of Bwiru boys secondary school students who helped with the booth operation said that it was a very fun and rewarding time, and that they would spread Korean science classes and traditional culture to their friends in schools and villages. He also said he would like to come to his school and give lessons to students.



On August 8-10, about 120 teachers participated in the workshop. We operated two math booths and 10 science booths; and each teacher participated in seven booths to experience the workshop. Teachers in Tanzania may teach two subjects at school. Physical teachers often teach mathematics, or chemistry teachers teach biology. Considering this, we introduced the workshops to related subjects. In the questionnaire conducted after the 3-day workshop, the satisfaction rate on the content was 4.69/5.00 and the effectiveness was 4.72/5.00 for the workshop.



There was a presentation on the theme of "Current problems of Science Education in Tanzania" on the 2nd day of the workshop. I received a question and answer on behalf of the Korean team members and suddenly got a chance to make a presentation. The following is part of the presentation:

I am teaching pre-service teachers at university in Korea. Therefore, I cannot confidently say that I understand the difficulty of the in-service teachers. However, as a science education expert, I tried to understand the real classrooms and schools well and looked into their history. So I would like to give some suggestions on the reality of Tanzanian education on behalf of the teachers who have taught in Korea for a long time.

The educational environment in Tanzania is similar to that of Korea 40 years ago. There are various environmental and financial related issues such as the lack of teacher numbers in relation to the number of students (seriously 1:150), the problem of overcrowded class due to a lack of classrooms, the problem of educational facilities, the curriculum does not represent the actual situation well, supplying textbooks and etc. Of course, it is a matter of government and it is often the case that we cannot do anything without waiting. But the Korean teacher actions were different a bit.

In Korea, colleges of education to foster teachers have been established for a long time ago, emphasizing education and putting a lot of effort on training teachers. The trained teachers have been working hard to teach students well in each area. Teachers' organizations and academic societies were created to reflect the demands of these teachers for changes in education content and the willingness to follow society's changes. In Korea, KASE (Korea Association for Science Education) was established in the 1970s and has a history of more than 50 years. In the United States, NSTA (National Science Teachers Association) was created by the needs of teachers and became biggest association in US. Teacher associations or teachers interest groups have also been established in relation to various topics, experiments, discussions and strategies as required by teachers in Korea.

The environment and culture of science education has changed a lot due to the efforts and dedication of teachers in Korea. Teachers need to put their voices together and ask for the empowerment of their voices to change the environment.

The ten-day schedule, with a three-day workshop in it, enabled me to feel the potential and enthusiasm of Tanzanian teachers. The educational environment in Tanzania is similar to the situation of Korea in 1980s. However, the enthusiasm and effort of the teachers, especially the efforts of the HSOT members, was great. I saw the hope in it. I hope that their enquiry and interests to science education will spread to the whole Tanzania by HSOT teachers.

Acknowledgement

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Reflections from ASERA Conference in Sydney

Growing young generation of EASE and crisis of communities of science education all over the world

Hunkoog JHO

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Meets great colleagues again like a serendipity

Seven years ago, I first visited Australia in order to attend the conference held in New Castle, ASERA (Australasian Science Education Research Association). The conference venue was located just near the seashore and the scenery was extremely beautiful. In addition, the audience of hundreds of people were kind to listen to novice researchers, and I could see a number of prominent scholars whose name I found in many books in science education. In 2017, ASERA conferences was held in University of Technology, Sydney and I looked forward to getting many insightful ideas and having great memories there. The conference was held from June 27 to 30 at UTS in the real heart of Sydney and hundred people or so took part in the conference. The environment was quite cozy. In the ASERA conference, presenters have forty minutes (twenty minutes for presentation and another twenty minutes for discussion) and that makes both presenters and audience feel free to speak out their opinions. That is one of reasons I love to be there. If you have a chance to show your research there, you will have great audience and they will try to understand what you have done in order to help you better. The conference is especially generous to novice researchers. I recommend you to visit Australia and enjoy many good places near the conference.

Unexpectedly, I have met two close friends in the conference, Kazumasa Takashi (a professor at Hokkaido University of Education, Japan) and Sung-Tao Lee (a professor at National Taichung University of Education, Taiwan). Seven year ago, we were at the same group in EASE Summer School. At that time, Kaz and I were graduate students and Prof. Lee was our coach. As time went by, some of participants had got PhD degree and reunited in the wonderful place as professional researchers. I felt like I met old friends in my hometown and kind person, Kaz, handed over a souvenir to me and Prof. Lee. It was really impressive to me that we have been growing together, a rare relationship and a long distance though. The special key to connect all of us was EASE Summer School which was held in Taiwan seven years ago, and the summer school kept held each year. I believe that every single participant in the summer school spent an excellent time and shared a deep friendship and solidarity.



Figure 1 Long time no see! Me (left), Prof. Sung-Tao Lee (center), Prof. Kazumasa Takahashi (right)

One of interesting things in the conference was that they prepared a special meeting for young scholars. It was called as fireside chat (not literally). A movie clip of fireworks was shown in the monitor in the room, and people

across the world sat around together and introduced themselves to others. While enjoying some finger food, a couple of experienced scholars gave some tips for conference presentation and PhD thesis.



Figure 2 Fireside chat (left) and the hosting professor of the program, Keith Skamp (right)

The special session was hosted by Prof. Keith Skamp, a kind gentleman. He gave some important comments to the young generation. A PhD course is like a long journey and balance between study and life is more important than any other thing, he said. He stressed the fundamental thing in the research. He told that he still looked up dictionaries for the synonyms (Roget's thesaurus), read APA manuals and methodology books such as Miles & Huberman (data analysis) and Spradley (participant observation). As well, it is important to submit an article to the peer-reviewed journal because the referees provided many constructive comments and I can be improved regardless whether it is accepted or rejected. I agreed to many of his opinions and there should be many programs for the pre-professional researchers.

The same problem we are facing: decrease of numbers of participants in the conference

A large proportion of the presenters in the conference were PhD candidates or PhD students. Probably they ought to attend the conference to meet the requirement for PhD degree (I am not sure whether graduate students in Australia have to present their own research before the examination of their thesis). On the contrary, I hardly saw well-known scholars living in Australia. More worse, the number of participants in the conference fell out compared to the number before seven years. I heard that only a hundred of people attended the four-day conference, and I have found the same problem in the United States, NARST conference in San Antonio, 2017 and domestic conferences in my country. I have worried about this issue and one of my colleagues told me as follows:

In the past, it was really hard to get the articles related to my study and there were only a few of chance to communicate with the international scholars. The only thing we could satisfy the academic desire was to attend the conference. However, many things are changed. Without conferences, we can download tons of articles through the internet and once I click in my room, I can talk to any famous scholars at any time. In addition, paper is a big deal and presentation itself is not that worthy. People do not care about presentation because hundreds of presentations cannot defeat one single paper. That is why every scholar relies entirely on writing up a paper.

The publication is a good way of communication in academic communities. However, many great ideas were inspired from our daily basis and communication with friends. For example, philosophical concepts in the quantum mechanics were born through the keen discussion between Einstein and Bohr in the Solvay conference. Many paradoxical situations Einstein suggested to defeat the ideas of Copenhagen people contributed to develop theories of quantum mechanics as a consequence. The dialogue between Hooke and Newton brought about good explanations of movement of heavenly bodies with gravitational and centrifugal forces. Even, new ideas in the field of the nature of science elaborated through the repetitive presentations in the various conferences. Moreover, the scientific revolution in the seventeenth century was driven by invisible college, composed of a pack of scientists and there had been many universities in the United Kingdom later. It is really important to increase the boundary

of science education communities with regard to the future generation and the development of science and science education. We need to take care of our fellows and colleagues who are reluctant to attend the conference and listen to their opinions why they do not. As well, there should be many fascinating programs for both prospective and experienced scholars. If we have the same problem and fix it up, please share your ideas to resolve this situation. Maybe, the development of technologies can solve this issue. For example, live streaming on social media (facebook or youtube) attracts more people out of communities and catches up their attentions. Webinar can connect more people far away from the conference and finally they want to stay in the interesting and fruitful place. If there is anyone who have your own solution or who have different ideas about this problem, please send an e-mail to the editor-in-chief of the newsletter (e-mail: scientia.quam.vita@gmail.com).

Upcoming conferences

International Science Education conference 2018 **Re-researching Science Education: Same Issues from Different Lenses**

June 19-21, 2018 @ National Institute of Education NIE, Singapore

The International Science Education Conference 2018 is jointly organized by the Ministry of Education Singapore and the National Institute of Education, Nanyang Technological University, Singapore. The theme “Re-researching science education: Same issues from different lenses” aims to provide a platform for intellectual dialogue on issues in science education using alternative lenses. Many problems in science education are not new, but can be addressed with new lenses to identify different or unique strategies and solutions. The word “re-search” is intentionally hyphenated to underscore the importance of constantly re-looking and re-examining previous issues so as to gain new insights into familiar problems that confront diverse stakeholders in science education. Through such a process, the field of science education will progress and be enriched.

Conference Website: <http://www.isec2018singapore.org/>

Important Dates

Deadline for submission of abstracts – 27 September 2017

Email notification of acceptance or rejection – 15 December 2017

End of early-bird rate for conference – 15 January 2018

Deadline for submission of full paper – 31 January 2018

Keynote Speakers (in alphabetical order)

Dr. Vanessa Kind, School of Education, Durham University, U.K.

Dr. Sonia Martin, Science Education Faculty, Seoul National University, Seoul, Korea

Dr. Subramaniam Ramanathan, Natural Sciences & Science Education Academic Group. NIE, Nanyang Technological University, Singapore

Dr. Victor Sampson, College of Education, The University of Texas at Austin, U.S.A.

Inquiries to: isec2018@nie.edu.sg

EASE & ASET Joint International Conference

A dialogue between the local and the global

November 23-25, 2018 @ National Dong Hwa University, Hualien, Taiwan

The next conference of East-Asian Association for Science Education will be held in Taiwan. At this time, EASE and ASET have a cooperation to host the conference at the same venue, National Dong Hwa University, Hualien.

For more information, please visit the website https://2018east_aset.ndhu.edu.tw

Inquiries to: clchiang@gms.ndhu.edu.tw or jingwenlin@gms.ndhu.edu.tw

2018 International Conference of KASE (Korean Association for Science Education)

January 25-27 @ Dankook University, Korea

KASE is an organization representing Korea's science education and holds an international conference every winter. Dankook University at the Jukjeon campus is very proud to host this coming KASE international conference 2018. The theme of the KASE international conference 2018 is "Beyond the classroom: Expanding the boundaries of science education." At this conference, we as an international science education community hope to find innovative ways to bring our science education to growth by linking science teaching with out-of-school education. You will enjoy all strands covering this theme during the KASE conference.

Dankook University was established in 1947 based on founders' lofty ideal that the fundamentals of education lie in serving one's country and maximizing the potential of individuals. After 60 years of proud history in Seoul, DKU relocated its main campus to Jukjeon in 2007, in an effort to prepare itself for a giant leap forward in a global age. Dankook University is surrounded by Korean cultural heritage sites such as Folk Village, Wawoojongs Temple, and Hwaseong Fortress. There are also various attractions such as Theme parks and Nam June Paik Art Center. We believe that the conference will be an enjoyable experience for all participants.



There are some important dates to remember. You can find all information of abstract submission, conference site, and registration. You can get information about invited speakers; Ian Abrahams (UK), John Lawrence Bencze (Canada), Hye Eun Chu (Korea), Ying-Shao Hsu (Taiwan), Ming-Jun Issac Su (Taiwan), Masashiro Kamata (Japan), Chan-Jong Kim (Korea), Sungwon Kim (Korea), Kang Hwan Lee (Korea), Yew Jin Lee (Singapore), Yumi Lee (Uzbekistan), Jong-Deock Lim (Korea), William F. McComas (USA), Margaret R. Blanchard (USA), Jesper Sjöström (Sweden), and Chi Ho Yeung (Hong Kong). I hope you can come to meet them and share the ideas of your interest with them in Korea.

<http://www.koreascience.org/english>

Inquiries to: karse@knue.ac.kr

The fourth Asian HPST&ST Conference

November 21-23, 2018 @ National Dong Hwa University, Hualien, Taiwan

The fourth conference will be held at the National Dong Hwa University, Hualien, Taiwan, 21-23 November 2018. The conference will precede, and overlap by one day, the East-Asian Association for Science Education conference also occurring at Dong Hwa University. The conferences have featured plenary lectures, contributed papers and workshops. Plenary lectures have been given by:

Yung Sik Kim, Seoul National University, Korea
Norman Lederman, Illinois Institute of Technology, USA
Hasok Chang, Cambridge University, UK
Gregory Radick, University of Leeds, UK
Igal Galili, The Hebrew University, Israel
Takehiko Hashimoto, University of Tokyo, Japan
Alice Siu Wong, University of Hong Kong, Hong Kong
John Dupré, University of Exeter, UK
Juang-Tai Hsu, National Tsing Hua University, Taiwan
Mansoor Niaz, University de Oriente, Venezuela
Otávio Bueno, University of Miami, USA
Dung Sheng Chen, National Taiwan University, Taiwan
Szu-Ting Chen, National Tsing Hua University, Taiwan
Martin Kusch, University of Vienna, Austria
Alan Love, University of Minnesota, USA
Hans Peter Peter, Free University of Berlin, Germany
C. Kenneth Waters, University of Minnesota, USA
Darrel Rowbottom, Lingnan University, Hong Kong
Chanju Kim, Ewha Woman's University, Korea.
Sang-Wook Yi, Hanyang University, Korea
Michael R. Matthews, UNSW, Australia

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