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EDUCATION

- 2006 Curriculum & Instruction, University of Illinois at Urbana-Champaign (Ph.D)
- 2000 Physics Education, Ewha Womans University (M. Ed)
- 1998 Science Education, Ewha Womans University (B.A)

POSIOTION.

- 03/2018~present Professor, Department of Science Education
- 04/2019~01/2021 Director, Center for Future Innovation
- 08/2016~07/2018 Associate Dean, Graduate School of Education
- 08/2012~07/2014 Department chair, Department of Science Education
- 03/2013~02/2018 Associate professor, Department of Science Education
- 03/2009~02/2013 Assistant professor, Department of Science Education
- 03/2007~02/2009 Fulltime lecturer
- 09/2006~02/2007 Post-doctoral Fellow
- 03/1999~07/2001 Science Teacher, Sung-in Middle School, Seoul

REPRESENTATIVE PROJECTS

- Development, implementation and evaluation of effectiveness of “SocioScientific Issues for Participatory Citizens (SSIPaC)” program (06/2019-present)
- Conceptualization of a PCK framework for teaching socioscientific issues and exploration of the dynamic mechanism and its progression among PCK components (05/2015-04/2017)
- Development of instructional materials for implementing 2015 revised curriculum: Middle school science (12/2015-06/2016)
- Study on Improvement of Middle School Science Textbook through Scientists' Inquiry Experiment (07/2014-12/2014)
- Designing digital science textbooks (07/2014-12/2014)
- Designing and implementing instructional strategies for collective intelligence-based reasoning on socioscientific issues (05/2013-042014)
- Development of Web-based Education Program for Socio-Scientific Issues and Investigation of Its Effects (05/2011-04/2013)
- World Class University Project: Establishment of Education System of Enhancing Scientific Literacy for 21st Century (09/2009-08/2013)
- Organization of International Science Engineering Camp 2008 (04/2008-09/2008)
- Development of Science Textbook for Freshman & Junior in Secondary School based on Experiment Inquiry (02/2007-02/2009)
- Experimental, theoretical, and R&E studies of nuclear physics related to ultra high temperatures and densities (09/2007-08/2009)
- A Study of Developing an Educational Textbook and a Teacher's Guidebook for Energy Savings for the 1st and 2nd Grade Elementary School Students (01/2007-08/2007)

PROFESSIONAL ACTIVITIES

- Member of National Association for Research in Science Teaching (NARST), Korean Association for Research in Science Education (KASE), etc.
- 01/2015~12/2018 Editor, Journal of Qualitative Research
- 02/2019~01/2021 Editor, Journal of Curriculum & Instruction
- 01/2015~present Associate Editor, Asian-Pacific Science Education
- 04/2021~present Editorial Board Member, Journal of Research in Science Teaching
- Editorial board members in domestic journals (KALCI, JQR, etc.)
- Reviewers in international journals

JOURNAL PUBLICATIONS

Ko, Y., Shim, S. S., & Lee, H. (2021). Development and Validation of a Scale to Measure Views of Social Responsibility of Scientists and Engineers (VSRoSE). International Journal of Science and Mathematics Education, 1-27.

Kim, G., Ok, S., Lee, H., Ko, Y., & Hwang, Y. (2021). A case study of an ENACT model-based engineering design online course for fostering social responsibility of engineers. Journal of Engineering Education Research, 24(6), 3-19.

Yoon, J., Ko, Y., & Lee, H. (2021). Virtual and Open Integration of Culture for Education (VOICE) with Science Teacher Candidates from Korea during COVID-19. Asia-Pacific Science Education, 7(2), 384-420.

Choi, Y., & Lee, H. (2021). Exploring the Effects of Implementing a Research-Based SSI Program on Students' Understanding of SSI and Willingness to Act. Asia-Pacific Science Education, 7(2), 477-499.

Jo, S., Ko, Y., & Lee, H. (2021). Patterns of student evaluation on media information regarding socioscientific issues. Journal of the Korean Association for Science Education, 41(1), 59-70.

Choi, I., & Lee, H. (2021). Exploring science teachers' experiences and perceptions in operating science core schools. Journal of the Korean Association for Science Education, 41(2), 171-181.

Choi, Y., Ko, Y., Hong, Y., Lee, H., & Hwang, Y. (2021). Changes of pre-service technology teachers' views and educational needs on social responsibility of science/technology/engineering through the ENACT project. Journal of Research in Curriculum & Instruction, 25(2), 151-163.

Kim, G., & Lee, H. (2021). A case study of community-based socioscientific issue program: focusing on the abandoned animal issue. Journal of Biological Education, 55(4), 380-394.

Lee, H., Ha, J., & Kwak, Y. (2020). Perception of middle school science teachers and students on the implementation of core ideas and science key competencies and emphasized in the 2015 revised curriculum. Journal of Education Science, 22(2), 1-23.

Lee, H., Baek, J., & Kwak, Y. (2020). Middle school science teachers' perceptions of implementation and challenges on process-based assessment emphasized in the 2015 revised curriculum. Journal of Science Education, 44(2), 133-144.

Park, S., Ko., Y., & Lee, H. (2020). Video production as an instructional strategy for socioscientific issues: Its impact on middle school students' media literacy and understanding of SSI. Journal of Research in Curriculum & Instruction, 24(5), 511-522.

Ko, Y., & Lee, H. (2020). Analyzing college students' dialogic argumentation in the context of nanotechnology issues based on idiocentrism and allocentrism. Journal of the Korean Chemical Society, 64 (5), 291-303.

Kim, G., Mun, K., & Lee, H. (2020). Exploration of middle school students' ideas of fine dust issues using issue concept maps. Asia-Pacific Science Education, 6(2), 564–583.

Lee, H., Choi, Y., Nam, C., Ok, S., Shim, S., Hwang, Y., & Kim, G. (2020). Development of the ENACT model for cultivating social responsibility of college students in STEM fields. Journal of Engineering Education Research, 23(6), 3-16.

Lee, H., Lee, H., & Zeidler, D. L. (2020). Examining tensions in the socioscientific issues classroom: Students' border crossings into a new culture of science. Journal of Research in Science Teaching, 57(5), 672-694. DOI: 10.1002/tea.21600.

Kim, G., Ko, Y., & Lee, H. (2020). The effects of community-based socioscientific issues program (SSI-COMM) on promoting students' sense of place and character as citizens. International Journal of Science and Mathematics Education, 18, 399–418. Doi: 10.1007/s10763-019-09976-1.

Lee, H., & Yang, J. (2019). Science teachers taking their first steps toward teaching socioscientific issues through collaborative action research. Research in Science Education, 49, 51-71.

Kim, G., & Lee, H. (2019). Exploring on the educational experiences of mentors and experts in science and engineering fields participating in a science camp on appropriate technology using blockchain. Journal of Research in Curriculum & Instruction, 23(3), 251-263.

Choi, J., Ko, Y., & Lee, H. (2019). Comparative analysis of socioscientific issues presented in the 2015 integrated science and social studies textbooks. Journal of Learner-Centered Curriculum and Instruction, 19(16), 1233-1256.

Kwon, S., & Lee, H. (2018). Effects of a SSI teacher education program (SSI-TEP) on promoting pre-service science teachers' understanding and competencies of SSI teaching. Journal of Learner-Centered Curriculum and Instruction, 18(21), 211-236.

Kim, D., Lee, H., Mun, K., & Hwang, Y. (2018). Analysis of contents and design of middle school science textbooks in US, Australia and Singapore for promoting understanding of core ideas. A Treatise on The Plastic Media, 21(4), 150-158.

Park, D., Ko, Y., & Lee, H. (2018). Flipped learning in socioscientific issues instruction: Its impact on middle school students' key competencies and character development as citizens. Journal of the Korean Association for Science Education, 38(4), 467-480.

Kim, S., & Lee, H. (2017). Types of questioning revealed in socioscientific issues (SSI) classes for elementary students. Journal of Learner-Centered Curriculum and Instruction, 17(22), 305-324.

Kim, G., & Lee, H. (2017). Effects of Community-Based SSI Programs on Promoting Middle School Students' Understanding of Issues and Character and Values as Citizens: Focused on Fine Dust Issues. Journal of the Korean Association for Science Education, 37(6), 911-920.

Kim, G., & Lee, H. (2017). Perceptions of teachers, program instructors, and local experts on implementing community-based socioscientific issues programs. Journal of the Korean Association for Science Education, 37(3), 453-464.

Ko, Y., & Lee, H. (2017). Comparison of the effects of socioscientific issues instruction on promoting college students' character and values: Based on idiocentrism and allocentrism. Journal of the Korean Association for Science Education, 37(3), 395-405.

Ko, Y., Kim, Y., Lee, H., & Lim, K. (2017). Research trends in teacher learning community in Korea: A thematic analysis of Korean journal publications. Journal of Learner-Centered Curriculum and Instruction, 17(4), 429-457.

Kim, J., Ko, Y., & Lee, H. (2017). Enhancing student key competencies through socioscientific issues instruction. Journal of Learner-Centered Curriculum and Instruction, 17(8), 339-362.

Park, S., Ko, Y., & Lee, H. (2017). Students' perception on the effects of the SSI instruction using digital storytelling approaches. Journal of the Korean Association for Science Education, 37(1), 181-192.

Lee, H., & Lee, H. (2017). Development and application of rubric for assessing nature of technology in the context of socioscientific issues. Journal of the Korean Association for Science Education, 37(2), 323-334.

Jun, Y., & Lee, H. (2016). Introduction of portraiture traditions and review of their major features as qualitative methodology. Journal of Education & Culture, 22(4), 5-23.

Choi, Y., & Lee, H. (2016). Exploration of experienced science teachers' perception on teaching the gifted in science. Journal of Gifted/Talented Education, 26(2), 299-318.

Jang, J., & Lee, H. (2016). Exploration of engineering professors' teaching orientations toward engineering courses. Journal of Engineering Education Research, 19(3), 23-34.

Jang, J., & Lee, H. (2016). Engineering professors' perceptions on the key competencies of engineering students and their instructional practice. Journal of Engineering Education Research, 19(4), 3-13.

Kim, J., Ko, Y., & Lee, H. (2016). Effects of socioscientific issues instruction on elementary school students' character and values as a global citizens. The Journal of Elementary Education, 29(3), 1-25.

Lee, H. (2016). Conceptualization of an SSI-PCK framework for teaching socioscientific issues. Journal of the Korean Association for Science Education, 36(4), 539-550.

Lee, H., & Lee, H. (2016). Contextualized nature of technology in socioscientific issues. Journal of the Korean Association for Science Education, 36(2), 303-315.

Lee, H., & Lee, H. (2016). Changes of college students' perception on nature of technology through SSI-based programs. Journal of Learner-Centered Curriculum and Instruction, 16(10), 961-985.

Chung, Y., Yoo, J., Kim, S., Lee, H., & Zeidler, D.L. (2016). Enhancing students' communication skills in the science classroom through socioscientific issues. International Journal of Science and Mathematics Education, 14(1), 1-27.

Mun, K., Lee, H., Kim, S., Choi, K., Choi, S., & Krajcik, J.S. (2015). Cross-cultural comparison of perceptions on the global scientific literacy with Australian, Chinese, and Korean middle school students. International Journal of Science and Mathematics Education, 13(2), 437-465.

Mun, K., Shin, N., Lee, H., Kim, S., Choi, K., Choi, S., & Krajcik, J.S. (2015). Korean secondary students' perception of scientific literacy as global citizens: Using global scientific literacy questionnaire. International Journal of Science Education, 37(11), 1739-1766.

Lee, H., & Lee, H. (2015). Analysis of students' socioscientific decision-making from the nature of technology perspectives. Journal of the Korean Association for Science Education, 35(1), 169-177.

Ko, Y., Choi, Y., & Lee, H. (2015). Development of an analytical framework for dialogic argumentation in the context of socioscientific issues: Based on discourse clusters and schemes. Journal of the Korean Association for Science Education, 35(3), 509-521.

Ko, Y., Lee, H., & Kim, S.-W. (2015). Gender differences of physics major college students' conceptual understanding and its degree of certainty in the subject of quantum mechanics. New Physics: Sae Mulli, 65(8), 812-824.

Lee, H., Choi, Y., & Ko. Y. (2015). Effects of collective intelligence-based SSI instruction on promoting middle school students' key competencies as citizens. Journal of the Korean Association for Science Education, 35(3), 431-442.

Bae, S., Jun, Y., & Lee, H. (2015). Major features of essentialist portraiture: Focusing on two cases of high school dropouts. Journal of Learner-Centered Curriculum and Instruction, 15(1), 1-25.

Ko, Y. & Lee, H. (2014). Pre-service science teachers' understanding of students'

misconceptions in physics and perceptions on “teacher as a researcher” through the research experience. Journal of the Korean Association for Science Education, 34(5), 449-457.

Lee, H., Choi, Y., & Ko, Y. (2014). Designing collective intelligence-based instructional models for teaching socioscientific issues. Journal of the Korean Association for Science Education, 34(6), 523-534.

Lee, H., Choi, Y., & Ko, Y. (2014). Designing collective intelligence-based instructional models for teaching socioscientific issues. Journal of the Korean Association for Science Education, 34(6), 523-534.

Lee, S., & Lee, H. (2014). Pattern of college students’informal reasoning and reactions to anomalous evidence on the controversial nuclear power generation issue. Journal of Learner-Centered Curriculum and Instruction, 14(6), 147-168.

Lee, H., & Chung, K. (2013). Understanding science teacher's teaching of socioscientific issues: Using cultural− historical activity theory as an analytical lens. Journal of Learner-Centered Curriculum and Instruction, 13(5), 413-433.

Lee, H., Yoo, J., Choi, S., Kim, S., Krajcik, S., Herman, B., & Zeidler, D. (2013). Socioscientific issues as a vehicle for promoting character and values for global citizens. International Journal of Science Education, 35(12), 2079–2113.

Jun, Y., Bae, S., & Lee, H. (2013). Exploration on in-depth interview adopted in the essentialist portraiture methodology: Focusing on participant as ally relationship and interviewing for feelings. Anthropology of Education, 16(3), 1-29.

Witz, K., & Lee, H. (2013). “The self,” “I,” and “a single-consciousness-and-‘I’”: Consciousness in the study of human life and experience V. Qualitative Inquiry, 19(6), 419–430.

Kim, H., Chung, K., & Lee, H. (2013). Identity development of science teachers involved in teacher communities: Based on the theory of “community of practice,” 33(2), 393-407.

Kim, Y., Lee, H., & Kim, J. (2013). Korean pre-service science teachers' belief on science teaching and learning and its evolution. Journal of Science Education, 37(1),40-51.

Ju, I., & Lee, H. (2013). Patterns of middle school students' value-judgment and decision-making on biotechnology-related socioscientific issues. Journal of Korean Association in Science Education, 33(1), 79-93.

Bencze, J. L., Carter, L., Chiu, M., Duit, R., Martin, S., Siry, C., Krajcik, J. S., Shin, N., Choi, K., Lee, H., & Kim, S. (2012). Globalization and science education. COSMOS, 8(2), 139-152.

Kim, S., Chung, Y., Woo, A., & Lee, H. (2012). Development of a theoretical model for STEAM education. Journal of Korean Association in Science Education, 32(2), 388-401.

Shin, D., Kim, J., Kim, R., Lee, J., Lee, H., & Lee, J. (2012). Development of interdisciplinary teacher education programs. Journal of Research in Curriculum Instruction, 16(1), 371-398.

Lee, H., & Chang, H. (2012). Patterns of pre-service science teachers' use of evidence in web-based discussions of the nuclear power generation issue. New Physics, 62(4), 364-373.

Yang, J., Kim, H., Gao, L., Kim, E., Kim, S., & Lee, H. (2012). Perceptions of science teachers on socioscientific issues as an instructional tool for creativity and character education. Journal of Korean Association in Science Education, 32(1), 113-128.

Lee, H., Chang, H., Choi, K., Kim, S., & Zeidler, D. L. (2012). Developing character and values for global citizens: Analysis of pre-service science teachers' moral reasoning on socioscientific issues. International Journal of Science Education, 34(6), 925-953.

Choi, K., Lee, H., Shin, N., Kim, S., & Krajcik, J. (2011). Re-conceptualization of scientific literacy in South Korea for the 21st century. Journal of Research in Science Teaching, 48(6), 670-697.

Lee, H., & Chang, H. (2011). Enlargement of pre-service science teachers' understanding of SSI teaching through a teacher education program. Journal of Research in Curriculum Instruction, 15(4), 913-932.

Yoo, J., Choi, S., & Lee, H. (2011). Perceptions of science, social studies, and ethics teachers on teaching socio-scientific issues. Journal of Research in Curriculum Instruction, 15(2), 415-432.

Oh, Y., Jang, J., Ryu, H., Kim, S., Lee, H., & Choi, K. (2011). Analyses and comparison between science content on education for sustainable development in high school science curriculum of 2007-revised and 2009-revised. Journal of Learner-Centered Curriculum and Instruction, 11(2), 95-113.

Lee, K., Choi, K., & Lee, H. (2011). Career development of Korean science-gifted students from elementary through high school years. Journal of Korean Association in Science Education, 31(1), 48-60.

Chang, H., & Lee, H. (2011). Exploring pre-service science teachers' motivation for career choice and their self-image as a science teacher. Journal of Korean Association in Science Education, 31(1), 14-31.

Choi, S., Mun, K., & Lee, H. (2011). Students and the public understanding of scientific terms in mass media. Journal of Learner-Centered Curriculum and Instruction, 11(1), 367-389.

Lee, H., Chung, K., Yoo, J. (2010). Perceptions of science teachers in Korea and U.S. on global scientific literacy. The Journal of Curriculum and Evaluation, 13(1), 143-163.

Cho, M., Jang, J., Yoo, J., Kim, S., & Lee, H. (2010). Analysis of questioning used in science classes based on teaching and learning purposes and processes: Two case

studies. Journal of Learner-Centered Curriculum and Instruction, 10(2), 407-428.

Chang, H., & Lee, H. (2010). College students' decision-making tendencies in the context of socioscientific issues (SSI), Journal of Korean Association in Science Education, 30(7), 887-900.

Lee, I., Hahn, I., Choi, K., & Lee, H. (2010). In-depth exploration of pre-service science teachers' research experience in nuclear physics. Journal of Learner-Centered Curriculum and Instruction, 10(1), 335-353.

Lee, H., & Chang, H. (2010). Exploration of experienced science teachers' personal practical knowledge of teaching Socioscientific issues (SSI). Journal of Korean Association in Science Education, 30(3), 353-365.

Witz, K., Lee, H., & Huang, W. (2010). Consciousness in the study of human life and experience: "Higher aspects" and their nature. Qualitative Inquiry, 16(5), 397-409.

Witz, K., & Lee, H. (2009). Science as an ideal: Teachers' orientations to science and science education reform. Journal of Curriculum Studies, 41(3), 409–431.

Lee, H., & Witz, K. (2009). Science teachers' inspiration for teaching socioscientific issues (SSI): Disconnection with reform efforts. International Journal of Science Education, 31(7), 931–960.

Park, S., Choi, K., & Lee, H. (2009). Perceptions of science teachers in education institutes for gifted children on the elements of giftedness. Journal of Learner-Centered Curriculum and Instruction, 9(2), 119-137.

Choi, K., Choi, K., & Lee, H. (2009). Exploration of relations between middle school science teachers' perception of students' learning styles and their teaching styles. Journal of the Korean Association for Research in Science Education, 29(2), 267-275.

Choi, K., Choi, K., & Lee, H. (2009). Investigation of middle school science teachers' perception of students' learning styles. Journal of Learner-Centered Curriculum and Instruction, 9(1), 146-166.

Lee, I., Choi, K., Hahn, I., Kim, S., & Lee, H. (2009). The effect of pre-service science teachers' experiences in nuclear physics research on their understanding of scientific inquiry process and career planning. Korean Association for Research in Science Education, 29(5), 541-551.

Lee, H., & Bae, S. (2008). Issues in implementing a structured problem-based learning strategy in a volcano unit: A case study. International Journal of Science and Mathematics Education. 6, 655-676.

Chang, H., & Lee, H. (2008). Discourse analysis of pre-service science teachers and students in science museums and its implication for teacher education. Journal of Korean Elementary Science Education, 27(3), 211-220.

Lee, H. (2008). Decision-making patterns of pre-service science teachers on socioscientific

issues. Journal of Research in Curriculum Instruction, 12(2), 377-395.

Lee, H. (2008). Articulating science teachers' values and convictions for teaching socioscientific issues: Based on essentialist methodology. Journal of the Korean Association for Research in Science Education, 28(3), 253-268.

Lee, J., Choi, K, & Lee, H. (2008). The effects of questioning on middle school students' conceptual change regarding 'work and energy.' Saemuli. 57(3), 183-191.

Lee, J., Choi, K, & Lee, H. (2008). The effects of science reading guidance on students' understanding of science and attitude toward science reading. The Journal of Curriculum and Evaluation, 11(2), 165-187.

Chang, H., & Lee, H. (2007). Secondary school science teachers' perceptions of the educational programs offered by science museums. Journal of the Korean Association for Research in Science Education, 27(8), 755-764.

Park, S., Choi, K., & Lee, H. (2007). The effects of introducing science-related reading materials on the enhancement of high school students' attitudes toward reading, science, and career exploration. Journal of Learner-Centered Curriculum and Instruction, 7(1), 353-370.

Joo, Y., Jang, M., & Lee, H. (2007). An in-depth analysis of dropout factors based on cyber university student's dropout experiences. The Journal of Educational Information and Media, 13(3), 209-233.

Lee, H., & Chang, H. (2007). The comparison of state-level U.S. science curricula with science teachers' perception regarding teaching socioscientific issues (SSI). The Journal of Curriculum & Evaluation, 10(1), 189-209.

Kang, S., Suh, H., Shin, S., Lee, J., Lee, H., & Choi, J. (2007). Pre-service teachers' evaluation on English-medium lectures. Journal of Research in Curriculum Instruction, 11(2), 637-656.

Lee, H., Abd-El-Khalick, F., & Choi, K. (2006). Korean science teachers' perceptions of the introduction of socioscientific issues into the science curriculum. Canadian Journal of Science, Mathematics, and Technology Education, 6(2), 97-117.

Lee, H., Choi, K., & Chang, H. (2006). Patterns of college students' moral engagement with socioscientific issues. Journal of the Korean Association for Research in Science Education, 25(6), 646-659.

Choi, K., Chang, H., & Lee, H. (2006). Elementary school teachers' perception on the use of educational programs in science museums. Journal of Korean Elementary Science Education, 25(3), 331-337.

Bae, S., & Lee (2006). Exploration on middle school students' perception on differentiated instruction. Journal of Learner-Centered Curriculum and Instruction, 6(2), 159-176.

Lee, H., Choi, K., & Nam, J. (2000). The effects of formative assessment with detailed

feedback on students' science achievement, attitude, and interaction between teacher and students. Journal of the Korean Association for Research in Science Education, 20(3), 479-490.

BOOK (BOOK CHAPTER) PUBLICATIONS

Lee, H., & Lee, H. (2021). Enhancing socioscientific reasoning through nature of technology. In W. A. Powell (Ed.), Socioscientific issues-based instruction for scientific literacy development (pp. 162-190). Hershey, PA: IGI Global.

Shim, S., & Lee, H. (2019). Ensuring healthy social dynamics and motivation in youth citizen science programs. In S. E. Hiller & A. Kitsantas (Eds.), Enhancing STEM motivation through citizen science programs (pp. 69-96). New York, NY: Nova Science Publishers.

Lee, H. (2018). What is SSI education? Seoul: Parkyoung Story.

Jun, Y., & Lee, H. (2017). Portraiture. In Y. Kim, & H. Lee (Eds.), Qualitative research: 15 approaches (pp. 605-630). Paju: Academy Press.

Kim, H., Kumano, Y., Lee, H., Liu, C., & Liu, S. (2016). Science education reform and the professional development of science teachers in east Asian regions. In H. Lin, J. K. Gilbert, & C. Lien (Eds.), Science Education Research and Practice in East Asia: Trends and perspectives (pp. 303-330). Taiwan: Higher Education Publishing Co.

Cho, S., Lee, H., Joo, Y., & Kim, N. (2011). Qualitative research design & practice. Seoul: Green Press.

COURSES

- **For Undergraduate Students**

  - **General Science Curricular Materials & Teaching Methods**
    This course covers different topics that preservice science teachers need to know in order to design science lessons (e.g., science curriculum, learning theories, lesson design, teaching strategies, etc.) and provides opportunities to implement lesson plans in class.

  - **Theories in Physics Education**
    This course covers various learning and instructional theories for effective science teaching and provides opportunities to think of possible connections between the theories and teaching practices at the secondary classroom.

- **For Graduate Students**

  - **Research Design in Science Education**

This course deals with different research methodologies (from quantitative to qualitative research methods) that science educators need to obtain when conducting educational research.

- **Qualitative Research Methods in Science Education**

  This course covers major qualitative research traditions (e.g., narratives, ethnography, case study, grounded theory and phenomenological approaches), and practical method skills for conducting science education research from constructing research questions, collecting and analyzing data, and qualitative writing.

- **Socioscientific issues education**

  This course covers theoretical foundations for SSI education and explores various research topics on SSI (e.g., patterns of SSI reasoning, teaching strategies for SSI, teacher professional development for SSI, etc.).