

Hyunju Lee

Department of Science Education
Ewha Womans University
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Seodaemun-gu, Seoul, Korea, 03760

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EDUCATION

- | | |
|-------------|--|
| 2001 – 2006 | Ph. D. , Curriculum & Instruction University of Illinois at Urbana-Champaign, IL Supervised by Dr. Klaus Witz |
| 1998 – 2000 | M. Ed. , Physics Education Ewha Womans University, Seoul, Korea |
| 1994 – 1998 | B. A. , Science Education Ewha Womans University, Seoul, Korea |

ACADEMIC AND PROFESSIONAL POSITIONS

Ewha Womans University

- | | |
|----------------|--|
| 2016 – Present | Associate Dean , Graduate School of Education |
| 2013 – Present | Associate professor , Department of Science Education |
| 2012 – 2014 | Department chair , Department of Science Education |
| 2009 – 2012 | Assistant professor , Department of Science Education |
| 2007 – 2009 | Fulltime lecturer |
| 2006 – 2007 | Post-doctoral Fellow |

Other Institution

- | | |
|-------------|--|
| 1999 – 2001 | Science Teacher , Sung-In Middle School, Seoul, Korea |
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ACADEMIC PUBLICATIONS**Refereed Journal Articles**

- Lee, H., & Yang, J. (2017). Science teachers taking their first steps toward teaching socioscientific issues through collaborative action research. *Research in Science Education*, Online First.
- 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. [SCOPUS]
- 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.
- 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.
- 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, 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. L. (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". *Journal of Korean Association in Science Education*, 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: Sae Mulli*, 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(3), 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.' *New Physics: Sae Mulli*. 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, H.** (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

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

Book chapters

- 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.

INVITED LECTURES

Invited Speech

- 07/2017 Invited speech, Curtin University, Perth, Australia
Topic: Promoting character and values as global citizens through teaching socioscientific issues
- 09/2014 Invited speech, National Museum of Natural Science, Taiwan
Topic: Promoting scientific literacy as global citizens for the 21st century in South Korea

Plenary Speech

- 01/2017 Plenary Speech, The KASE international Conference.
Topic: Cultivation of character and values for promoting scientific literacy as citizens

GRANTS, HONORS, AND AWARDS

Grants

- 2015 – 2018 “Conceptualization of a PCK framework for teaching socioscientific issues and exploration of the dynamic mechanism and its progression among PCK components”, Funded by Korea National Research Foundation (Principle Investigator, PI)
- 2016 – 2017 “Drawing Australian and Korean students’ ideas in science”, Funded by Australian Korean Foundation Grant (Co-Principle Investigator, Co-PI)

With Drs. David Treagust, Mihye Won, Curtin University, Australia;
Dr. Kongju Mun, Ewha Womans University, Korea
- 2015 – 2016 “Development of instructional materials for implementing 2015 revised curriculum: Middle school science”, Funded by Korea Foundation for the Advancement of Science & Creativity (PI)
- 2014 “Study on improvement of middle school science textbook through scientists’ inquiry experiment”, Funded by Korea Foundation for the Advancement of Science & Creativity (Co-I)
- 2014 “Designing digital science textbooks”, Funded by Daejeon Metropolitan Office of Education, Ministry of Education (PI)

- 2013 – 2014 “Designing and implementing instructional strategies for collective intelligence-based reasoning on socioscientific issues”, Funded by Korea National Research Foundation (PI)
- 2011 – 2013 “Development of web-based education program for socio-scientific issues and investigation of its effects”, Funded by Korea National Research Foundation (PI)
- 2012 – 2012 “Designing instructional models for digital textbooks”, Funded by Korea Education and Research Information Science (PI)
- 2009 – 2013 “World Class University Project: Establishment of Education System of Enhancing Scientific Literacy for 21st Century”, Funded by Korea National Research Foundation (Co-I)
- PI: Dr. Kyunghye Choi, Ewha Womans University
With Dr. Sung-Won Kim, Ewha Womans University; Dr. Joseph Krajcik, Michigan State University; Dr. Dana Zeilder, University of South Florida
- 2008 “Organization of international science engineering camp 2008”, Funded by Ministry of Science and Technology (PI)
- 2007 – 2009 “Experimental, theoretical, and R&E studies of nuclear physics related to ultrahigh temperatures and densities”, Funded by Korea National Research Foundation (Co-I)
- 2007 – 2009 “Development of science textbook for freshman & junior in secondary school based on experiment inquiry”, Funded by Korea Foundation for the Advancement of Science & Creativity (Co-I)
- 2007 “A study of developing an educational textbook and a teacher’s guidebook for energy savings for the 1st and 2nd grade elementary school students”, Funded by Korea District Heating Corporation (Co-I)

Awards and Honors

- 2013 **Outstanding Research Fund Award**, Ewha Womans University
- 2011 **Outstanding Teaching Award**, Ewha Womans University
- 2008 **Early Career Award**, Korean Association for Science Education (KASE)

TEACHING EXPERIENCE

Ewha Womans University

For Graduate Students

| | |
|--------|---|
| G14371 | Selected Topics on Physics Education |
| G14404 | Research Methods in Science Education |
| G14409 | Design of Science Education Research |
| G16530 | Qualitative Research in Science Education |
| G16636 | Socioscientific Issues in Science Education |
| PH101 | Physics Education |
| PH102 | Teaching and Learning Theory of Physics |

For Undergraduate Students

| | |
|-------|--|
| 35549 | General/Integrated Science Curricular Materials and Teaching Methods |
| 36300 | Theoretical Foundation of Teaching Physics |
| 35548 | Theoretical Foundation of Teaching General/Integrated Science |

Sung-In Middle School

General Science for 7th – 9th graders

SUPERVISION OF GRADUATE STUDENTS

Doctoral Dissertations Supervised

| | | |
|--------------|--------|---------|
| Jiyoung Jang | Ph. D. | 08/2015 |
| Hyunok Lee | Ph. D. | 08/2015 |
| Kahyoung Kim | Ph. D. | 02/2017 |
| Jaeduck Kim | Ph. D. | 02/2017 |
| Yeonjoo Ko | Ph. D. | 08/2017 |

Theses Supervised

| | | | | | |
|--------------|--------|---------|--------------|--------|---------|
| Jiyun Kim | M. Ed. | 08/2010 | Suhyun Bae | M. Ed. | 02/2015 |
| Hyojung Kim | M. Ed. | 02/2011 | Hyeji Kim | M. Ed. | 02/2015 |
| Ki-Jeong Kim | M. Ed. | 02/2013 | Seul Lee | M. Ed. | 02/2015 |
| In-Ae Ju | M. Ed. | 08/2012 | Donghwa Park | M. S. | 02/2017 |
| Jiyeon Kim | M. Ed. | 08/2012 | Sehee Park | M. S. | 02/2017 |
| SuJung Lee | M. Ed. | 08/2012 | Dain Shin | M. S. | 02/2017 |

SERVICE AND PROFESSIONAL ACTIVITIES

Ewha Womans University

2016 – Present **Associate Dean**, Graduate School of Education
2013 – 2015 **Department Chair**, Department of Science Education

Scholarly Community

2015 – Present **Editor**, Journal of Qualitative Inquiry (Korean Journal)
2015 – Present **Associate Editor**, Asian-Pacific Science Education
2011 – Present **Editorial Board Member**, Journal of Learner-Centered Curriculum and Instruction

Professional Affiliations

National Association for Research in Science Teaching (NARST)
East-Asian Association for Science Education (EASE)
The Korean Association for Science Education (KASE)
European Science Education Research Association (ESERA)
Korean Association for Learner-centered Curriculum and Instruction (KALCI)

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