Doy Kim

(Doyeon Kim)

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EDUCATION

University of Wisconsin-Madison **Madison, WI, USA**
Ph.D. in Educational Psychology, Learning Sciences Sep 2019 – Present

Seoul National University **Seoul, South Korea**
Master of Science in Mathematics Education Mar 2016 – Feb 2019

- **Master's Thesis**: A diffractive analysis on the use of digital technology: Moving bodies and the density of rational numbers

Bachelor of Science in Mathematics Education Mar 2009 – Feb 2016

- **Bachelor's Thesis:** Educational neuroscience in mathematics education: Critical Issues on nature, theory, and methodology

PROFESSIONAL ACTIVITIES & EMPLOYMENT

Educational Psychology, WCER, UW-Madison **Madison, WI, USA**
Teaching Assistant Aug 2020 – Present

- EDPSYCH 301: How People Learn

The MAGIC Lab, WCER, UW-Madison **Madison, WI, USA**
Research Assistant Jun 2020 – Aug 2021

- Grant: How Dynamic Gestures and Directed Actions Contribute to Mathematical Proof Practices (US Dept. of Edu – R305A160020)
- Principal Investigator: Mitchell J. Nathan

SSK: Social Sciences Korea **Seoul, South Korea**
Research Assistant for the project '*Glocal Changes and Educational Response*' Nov 2017 – Feb 2019

- Researching on mathematics learning and the use of technology
- Administering website, edits newsletters

Korean Society of Mathematical Education **Seoul, South Korea**
Interpreter (ENG⇄KOR) Dec 2018

- Provided consecutive interpretation for workshops at the conference '*2018 International Conference of the Korean Society of Mathematics Education*'
    - Krauss, S. (2018). The role of students' mathematical errors and typical difficulties in the framework of teaching and planning of teaching
    - Sumpter, L. (2018). The role of the physical environment in mathematical problem solving

Member of Conference Organizing Committee for:
'2018 KSME & SNU CITE International Workshop on Mathematics Education' May 2018 – Aug 2018
'2017 International Conference of Joint Societies for Mathematics Education: KSME, KSESM, NIE' Aug 2017 – Dec 2017

- In charge of: Communication and itinerary arrangement for distinguished foreign

guests, and technological support

Interpreter (ENG⇄KOR) Dec 2017

- Provided consecutive interpretation for workshops at the conference '2017 International Conference of Joint Societies for Mathematics Education: KSME, KSESM, NIE'
    - Koichu, B. (2017). Between PBL (*Problem*-Based Learning) and PBL (*Project*-Based Learning)
    - Jaworski, B. (2017). Developmental research as a paradigm for teaching development in mathematics at all levels

Member of Conference Organizing Committee for: '2017 International Conference of Joint Societies for Mathematics Education: KSME, KSESM, NIE' Aug 2017 – Dec 2017

- In charge of: Communication and itinerary arrangement for distinguished foreign guests

SNU Center for In-service Teacher Education **Seoul, South Korea**

Interpreter (ENG⇄KOR) Nov 2017

- Provided consecutive interpretation for a talk at the colloquium '2017 International Perspectives for Professional Development'
    - Prediger, S. (2017). Design research for teachers with a focus on content-specific professionalization processes

Manager of Training Department Jun 2016 – Oct 2017

- Personnel in charge of the department
- Responsible for: Plan, budget, preparation, registration, operation, and evaluation of professional development programs, and public liaison
- Managed over 50 programs, 1500 hours of training, and 7000 trainees
- *A* Grade in 2016-2018 SNU Institutional Evaluation (*B* Grade in the 2013-2015 evaluation)

Member of Conference Organizing Committee for:

'The 2nd International Forum on Professional Development for Teachers' Feb 2017 – May 2017
'Global Workshop for Mathematics Classroom' Aug 2016 – Dec 2016
'The 1st International Forum on Professional Development for Teachers' Jul 2016 – Nov 2016

- The responsibilities (not overlapping with those as the manager of Training Department) include: Programme organization, personal assistance and itinerary arrangement for foreign invited speakers, edition and press of proceedings, promotion, finance

Educational Broadcasting System **Seoul, South Korea**

Researcher Apr 2013 – Jun 2014

- Contents development for '*EBS Math*'(www.ebsmath.co.kr)
    - Conducted preliminary survey and research for the project
    - 2 Online animation series:
        - Wrote draft for each episode
        - Developed instructional guideline materials and visual aids for screenwriters
    - 1 Online cartoon series:
        - Reviewed and commented on the manuscripts of cartoon artists

PUBLICATIONS

Refereed Journal Articles

Park, W., **Kim, D.**, & Kang, D. Y. (2021). Research trends in science and mathematics education in South Korea 2014–2018: A cross-disciplinary analysis of publications in selected local journals. Asia-Pacific Science Education.

Kim, D., & Kwon, O. N. (2018). How dense are rational numbers?: An inclusive materialist case study to digital technology. *Education of Primary School Mathematics, 21*(4), 375–395.

Han, C., Lee, K., **Kim, D.**, Bae, M. S., & Kwon, O. N. (2018). Aspects of understandings on statistical variability across varying degrees of task structuring. *Education of Primary School Mathematics, 21*(2), 131–150.

Yoon, J. E., **Kim, D**., & Kwon, O. N. (2015). Teachers' roles of learner-centered classes in domestic mathematics education research. *Journal of Learner-Centered Curriculum and Instruction, 15*(1), 45–68.

Refereed Conference Proceedings

Schenck, K. E., **Kim, D.**, & Swart, M. I. (2021) The Role of Spatial Anxiety in Geometric Reasoning. Learning Sciences Graduate Student Conference 2021. Urbana-Champaign; University of Illinois-Urbana-Champaign

Kim, D., Swart, M. I., Schenck, K. E., & Nathan, M. J. (2021). Grounded and embodied proof production: Are gestures and speech enough to produce deductive proof? In *Proceedings of the International Conference of the Learning Sciences 2021.* Bochum, Germany: Ruhr-Universität Bochum.

Xia, F., Swart, M. I., **Kim, D.,** & Nathan, M. J. (2021). Eliciting predictive behaviors to support embodied mathematical cognition: Socially-distanced experimentation in the time of COVID-19. Paper presented in *2021 Annual Conference of American Educational Research Association (AERA).*

Kirankumar, V., Sung, H., Swart, M. I., **Kim, D.**, Xia, F., Kwon, O. H., Nathan, M. J., & Walkington, C. (2021). Embodied transmission of ideas: Collaborative construction of geometry content and mathematical thinking. In *Proceedings of the International Conference of the Learning Sciences 2021.* Bochum, Germany: Ruhr-Universität Bochum.

Swart, M. I., Schenck, K. E., Xia, F., **Kim, D.**, Kwon, O. H., Nathan, M. J., & Walkington, C. (2021) Embodiment as a Rosetta stone: Collective conjecturing in an multilingual classroom using a motion capture geometry game. In A.I. Sacristán, J.C. Cortés-Zavala & P.M. Ruiz-Arias (Eds.). *Mathematics Education Across Cultures: Proceedings of the 42nd Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Mexico. Cinvestav / AMIUTEM / PME-NA. https:/doi.org/10.51272/pmena.42.2020

Kim, D., & Kwon, O. N. (2019). Moving hands and the density of rational numbers: An inclusive materialist approach to digital technology in the classroom. In P. Drijvers, K. M. Clark, & S. Rezat (Eds.), Proceedings of the 11th Congress of the European Society for Research in Mathematics Education (pp. 2868–2875). Utrecht, The Netherlands: Utrecht University and ERME.

Refereed Conference Presentations

Kim, D., & Kwon, O. N. (2018). How dense are rational numbers?: A new materialist approach to the number line. In E. Berqvist, M. Österholm, C. Granberg, & L. Sumpter (Eds.), *Proceedings of*

the 42nd Conference of the International Group for the Psychology of Mathematics Education (Vol. 5, p. 85). Umeå, Sweden: PME.

Han, C., Bae, M. S., **Kim, D.**, Lee, K., & Kwon, O. N. (2017). Degree of task structuring for developing the notion of variability. In B. Kaur, W. K. Ho, T. L. Toh, & B. H. Choy (Eds.), *Proceedings of the 41st Conference of the International Group for the Psychology of Mathematics Education* (Vol. 1, p. 205). Singapore: PME.

Non-refereed Conference Presentations

Kim, D., & Kwon, O. N. (2018). 수직선을 통한 유리수의 조밀성 개념 발현 과정에 대한 신유물론적 접근 [A new materialist analysis on the emergence of density through the number line]. In D. J. Kim, J. H. Shin, & J. S. Park (Eds.), *Proceedings of 2018 Spring Conference of the Korean Society of Mathematical Education* (pp. 140–143). Cheongju, South Korea: Korean Society of Mathematical Education.

Kim, D., & Kwon, O. N. (2017). 체화된 인지와 수학 학습: 몸의 의미를 중심으로 [Embodied cognition and mathematics learning: A review on the meaning of the body]. In O. N. Kwon, W. Y. Cho, & B. Kaur (Eds.), *Proceedings of the 2017 International Conference of Joint Societies for Mathematics Education: KSME, KSESM, NIE* (Vol. 1, pp. 67–69). Seoul, South Korea: Korean Society of Mathematical Education.

Learning Materials and etc.

Koh, Y.-G. (2014). 수학 열차 [The mathematics train] [Online cartoon series]. Seoul, South Korea: Educational Broadcasting System. Retrieved from http://www.ebsmath.co.kr/Series/seriesDetail?seriesSno=13&rscTpDscd=RTP14&isBot=false&userOs=windows&isIOSChrome53=false&isGalaxyS=false&isWin10=true&isAndroid=false&remoteIp=39.115.155.235&ieSquare=&prefixURLCheck=REAL&userBrowser=chrome&isLG=false&isIOS=false&currentDate=20181121035254&isLoginChk=N&html5Support=true&ieVersion=&isHtml5Support=true&existMobileMnuYn=N&isMobile=false&isIE=false

Lee, J. W. (2013a). 박사와 소녀: 수와 연산 [The doctor and the girl: Numbers and operations] [Online animation series]. Seoul, South Korea: Educational Broadcasting system. Retrieved from http://www.ebsmath.co.kr/Series/seriesDetail?seriesSno=7&rscTpDscd=RTP10&isBot=false&userOs=windows&isIOSChrome53=false&isGalaxyS=false&isWin10=true&isAndroid=false&remoteIp=39.115.155.235&ieSquare=&prefixURLCheck=REAL&userBrowser=chrome&isLG=false&isIOS=false&currentDate=20181121033845&isLoginChk=N&html5Support=true&ieVersion=&isHtml5Support=true&existMobileMnuYn=N&isMobile=false&isIE=false

Lee, J. W. (2013b). 박사와 소녀: 수와 연산 [The doctor and the girl: Probability and statistics] [Online animation series]. Seoul, South Korea: Educational Broadcasting System. Retrieved from http://www.ebsmath.co.kr/Series/seriesDetail?seriesSno=8&rscTpDscd=RTP10&isBot=false&userOs=windows&isIOSChrome53=false&isGalaxyS=false&isWin10=true&isAndroid=false&remoteIp=39.115.155.235&ieSquare=&prefixURLCheck=REAL&userBrowser=chrome&isLG=false&isIOS=false&currentDate=20181121034717&isLoginChk=N&html5Support=true&ieVersion=&isHtml5Support=true&existMobileMnuYn=N&isMobile=false&isIE=false

CERTIFICATES & QUALIFICATIONS

Ministry of Education, Republic of Korea
Teacher's Certificate (Secondary School Regular Teacher, Grade 2, Mathematics) Feb 2016

GRANTS, FELLWOSHIPS & SCHOLARSHIPS

Graduate School of Education, University of Wisconsin-Madison
Graduate School Fellow Sep 2019 - Present

Kwanjeong Educational Foundation
Fellow Sep 2019 - Present

Seoul National University
Merit-based Scholarship Sep 2015
Need-based Scholarship Mar 2015

Chung Gwan Foundation
Merit-Based Scholarship to College of Education, SNU Sep 2014

Korea Student Aid Foundation
National Science and Engineering Undergraduate Scholarship Mar 2010
National Science and Engineering Undergraduate Scholarship Mar 2009

EXTRACURRICULAR ACTIVITIES

United States Army **Dongducheon, South Korea**
Infantry Squad Team Leader; Expert Infantry Man at 1-72 Armored Battalion, 2 Infantry Division 2011 – 2013

- Military Occupational Specialty: Infantryman (11B)
- Served as a team leader from May 2012 until the end of the service
- Earned Expert Infantryman Badge (EIB) in September 2012

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

International Society of the Learning Sciences 2020 – Present

European Society for Research in Mathematics Education 2018 – 2019

American Educational Research Association 2018 – Present

International Group of Psychology of Mathematics Education 2016 – Present

Korean Society of Mathematical Education 2015 – 2018

LANGUAGES, SKILLS & PERSONAL INTERESTS

Languages: Fluent in English and Korean
Analytical skills:

- **Modeling:** Hierarchical linear modeling
- **Data-reduction:** Principal component analysis, Factor analysis, Multidimensional scaling, Cluster analysis

- **Synthesis**: Meta-analysis

Technical Skills: R, Qualtrics XM, Microsoft Excel,
Athletic Interest(s): Tennis, Weight-lifting, Soccer
Social Interest(s): American politics