

GENERAL INFORMATION

- **Full name:**Binyan Xu
- **Gender:**Female
- **Citizenship:**Chinese
- **Languages:** Chinese, German, English
- **Email:** xubinyan650@sjtu.edu.cn

PERSONAL AND EDUCATIONAL DATA

- 1994 **Ph.D./Major: Mathematics Education**
(Advisors: Inge Schwank, Elmar Cohors-Fresenborg)
Department of Mathematics/Information
University of Osnabrueck, Germany
- 1988 **Master Program/Comparative Education,**
East China Normal University, China
- 1986 **B.S./Mathematics,** East China Normal University, China

ACADEMIC and PROFESSIONAL POSITIONS and ACTIVITIES

- 2001-present **Full Professor**
Institute of Curriculum and Instruction
College of Teacher Education
East China Normal University
- 1997-2001 **Associate Professor**
1994-1997 **Assistant Professor**
Institute of International and Comparative Education
East China Normal University
- 2012-2016 **Vice Dean**
Graduate School, East China Normal University

2008-2012	Vice Dean School of Education East China Normal University
2005-2008	Department head Institute of Curriculum and Instruction East China Normal University
2001-2004	Vice Dean School of Education East China Normal University

International Activities

Jan.2017- June 2017	Senior Visiting-Scholar at University of Maryland, USA (funded by China Scholarship Council (CSC))
June 2012- August 2012	Senior Researcher at Humboldt Universitaet zu Berlin (funded by German Academic Exchange Service (DAAD))
Jan. 2011- June 2011	Senior Visiting-Scholar at Humboldt Universitaet zu Berlin (funded by China Scholarship Council (CSC))
Jan. 2004- Aug. 2004	Humboldt Research Fellowship at Humboldt Universitaet zu Berlin
Aug. 2004- Dec. 2004	Humboldt Research Fellowship at University of Erfurt
Jan. 2000- Dec. 2000	Visiting Scholar at Humboldt Universitaet zu Berlin (funded by China Scholarship Council (CSC))
May 1997- July 1997	Visiting Scholar at University of Osnabrueck/ Medical University of Luebeck (funded by German Academic Exchange Service (DAAD))

Research Projects

2016-2020	PI/Project Director (Assessment of mathematics competency of Chinese students) was awarded from Ministry of Education of China
2015-2016	PI/Project Director (Investigation of Middle School Mathematics Textbooks in Shanghai) was awarded from Shanghai Educational Publishing House

- 2015 PI/Project Director (The Development of Learning Tasks for Assessing Mathematics Learning Quality of Compulsory Education) was awarded from National Assessment of Education Quality in China
- 2015 PI/Project Director (The Development of Mathematics Tasks for Local Assessment) was awarded from National Assessment of Education Quality in China
- 2011-2015 PI/Project Director (The Development of Framework of core mathematics competency for school and Their Assessment) was awarded from Ministry of Education of China
- 2007-2010 PI/Research grant (Comparative Study of Mathematics Literacy) was awarded from Ministry of Education of China
- 2006-2010 PI/Research grant (Research of Mathematics Literacy from international perspectives) was awarded from Shanghai Municipal Human Resources and Social Security Bureau
- 2005-2009 PI/Project Director (The Development of Mathematics Instructional Design to innovate Learning Culture) was awarded from Ministry of Education of China
- 1999-2003 PI/Project Director (The Development of Mathematics Teaching Models supported by Multi-media Technology) was awarded from Shanghai Municipal Education Committee
- 1995-1998 PI/Project Director (Investigation of Students' Cognitive Structures on Mathematics Learning) was awarded from Ministry of Education of China

Scientific Collaborations

- 2013-2014 Collaboration with ENS de Lyon/French Institute of Education (Co-investigator of the project of Joint Research Institute of Science and Society "French-Chinese Laboratory for Comparing Curricula in Science Education (C2SE)", awarded from East China Normal University
- 2008-2012 Collaboration with University Pennsylvania (Co-investigator of APEC project "Identifying best practices in mathematics and science teacher preparation in APEC Economies")
- 2002-2003 Collaboration with Humboldt-Universitaet zu Berlin (Co-investigator of the project "Comparative Assessment of the Quality of Graduates at Chinese and German Secondary Schools (grade 12/13)", awarded from International Office of Ministry of Education and Research of Germany

Invited speaker at

- July, 2019 From mathematics modelling competition to mathematics modelling competence. **Keynote** at International conference on the teaching of mathematical modelling and applications (ICTMA), Hong Kong, China
- June, 2016 Central questions about formative assessment in Chinese math education – with an eye to international collaborations. **Invited speaker** at the seminar organized by The Center for Research and Development of Alternatives in Education, University of Haifa, Israel.
- May, 2016 Development of the framework of core mathematics competencies and its assessment. **Keynote** at the Forum on mathematics literacy and 2016 National mathematics education forum for Graduate organized by Soochow University, China.
- April, 2016 Development of mathematics curriculum as cultural activities. **Keynote** at the 2th National Forum on Mathematics Education Philosophy, organized by Nanjing Normal University, China
- October, 2015 Chinese project-based classroom practices promoting students' engagement in mathematical activities. **Invited speaker** at the international conference “education: traditions, modernity, future”, organized by Moscow State Pedagogical University, Russian Federation
- November, 2014 French-Chinese Lab for comparing curricula in science education. **Invited speaker** at the conference “The societal dimension of science”, organized in the context of France-China 50, East China Normal University, China
- July, 2014 Back to the future of textbooks in mathematics teaching. **Panel Discussion** (together with Kenneth Ruthven, Jere Confrey, John Ling) at International Conference on Mathematics Textbook Research and Development, organized by University of Southampton, UK
- July, 2012 Mathematics Education in East Asia. **Plenary Panel** (together with Frederick Leung, Kyungmee Park, Yoshinori Shimizu) at ICME-12, Seoul, Korea
- November, 2011 The mathematics teaching in primary school in China. **Keynote** at International conference on mathematics education, organized the Santo Thomas University, Chile
- April, 2011 A cross-national comparison of senior high school mathematics textbooks: project overview and preliminary findings. **Keynote** at International Conference on School Mathematics Textbooks, organized by East China Normal University, China

- April, 2010 Quality education in classroom: innovation of learning culture in mathematics classroom in China. **Invited speaker** at Sino-German Conference on “Quality education” in China, organized by Humboldt Universitaet zu Berlin, Germany
- October, 2008 “Best practice” for new teacher/in-service teacher training. **Invited speaker** at the project meeting “Identifying best practices in mathematics and science teacher preparation in APEC Economies ”, organized by University Pennsylvania, USA
- January, 2008 Design of learning environment to cultivate learning culture within subject teaching. **Keynote** at International workshop on educational reconstruction, organized by University Oldenburg, Germany

Member of International Conferences/Community

IPC member for ICME-13 in Germany, 2016

EC member of International Committee of Mathematical Instruction, 2017-2020

Co-chair of the Local Organizing Committee for ICME-14 in Shanghai in 2020

Teaching Experience:

Courses for Master program

Mathematics curriculum and textbook research

Mathematics Education in International Comparative Perspectives

Instructional Design in Mathematics Classroom

Courses for Doctor program

Mathematics Curriculum and Instruction: Problems and Issues

Current Issues on Development of Mathematics Education

Research publications

Wang, C., Shinno, Y., Xu, B. et al. An anthropological point of view: exploring the Chinese and Japanese issues of translation about teaching resources. ZDM Mathematics

- Education (2023). <https://doi.org/10.1007/s11858-023-01477-4> (English)
- Xu, BY; Lu, XL; Yang, XR & Bao, JS. Mathematicians', mathematics educators', and mathematics teachers' professional conceptions of the school learning of mathematical modelling in China. *ZDM-Mathematics Education*. 2022, 54(3): 679-691. DOI: 10.1007/s11858-022-01356-4. (English)
- Xu, BY; Cai, JF; Liu, QM & Hwang, S. Teachers' predictions of students' mathematical thinking related to problem posing. *International Journal of Educational Research*. 2020 (102), DOI 10.1016/j.ijer.2019.04.005. (English)
- Miyakawa, T. & Xu, B. Teachers' Collective Work Inside and Outside School as an Essential Source of Mathematics Teachers' Documentation Work: Experiences from Japan and China. In: L. Trouche et al. (eds.), *The 'Resource' Approach to Mathematics Education, Advances in Mathematics Education*. 2019: 145-172. https://doi.org/10.1007/978-3-030-20393-1_7 (English)
- Xu, Binyan, Cai, Jinfa, Liu, Qimeng & Stephen Hwang (2019). Teachers' predictions of students' mathematical thinking related to problem posing. *International Journal of Educational Research*, <https://doi.org/10.1016/j.ijer.2019.04.005> (English)
- Xu, Binyan (2019). Textbook research from international perspectives. In: *Global Education*. 2013 (6) (Chinese) 2019.48(03):117-125.
- Xu, Binyan (2015). International Comparison on the Mathematical Inquiry Content in the Senior High School Mathematics Textbooks. In: *Journal of East China Normal University (Natural Sciences) (Special Issues)*. (English)
- Xu, Binyan & Zhu, Guangtian (2015). Chinese project-based classroom practices promoting students' engagement in mathematical activities. In: *How Chinese Teach Mathematics: Perspectives from Insiders*. (English)
- Xu, Binyan (2013). The development of school mathematics textbooks in China since 1950. In: *ZDM International Journal of Mathematics Education*, (2013) 45: 725-736. (English)
- Xu, Binyan (2013). Research on Core Competences of School Mathematics. In: *Global Education*. 2013 (6) (Chinese)
- Xu, Binyan (2013). Development and Issues of Intercultural Education. In: *Research on Comparative Studies*. 2013 (9). (Chinese)
- Xu, Binyan (2011). Assessment of mathematics competency to improve mathematics

- teaching. In: Global Education. 2011 (12) (Chinese)
- Ludwig, Matthias & Xu, Binyan (2010). A comparative study of modelling competencies among Chinese and German students. Journal fuer Mathematik-Didaktik, Vol .31, Issued I, 77-97. (English)
- Xu,Binyan (2010). Research on mathematics education in the last decade: A review of journal articles. Frontiers of Education in China. Vol. 5, Issue 1, 130-155. (English)
- Xu, Binyan (2009). A comparative study on mathematical modelling competences with German and Chinese students. Mathematical application and moedlling in the teaching and learning of mathematics. Roskilde University. Denmark. (English)
- Xu, Binyan (2009). Aufbau einer forschenden Gemeinschaft in Schulen, Unterrichten professionalisieren Cornelsen, Germany. (German)
- Xu,Binyan (2008). Hospitieren-Erlaeutern-Begutachten : Foerderung von Lehrer/innenprofession in China, Journal fuer LehrerInnenbildung, Austria. (German)
- Ludwig,M.& Xu,Binyan (2008). Mathematik auf der Ananas - Eine chinesisch-deutsche Studie zu den Modellierungskompetenzen. In: Beitrage zum Mathematikunterricht Hildesheim:Franzbecker. Germany. (German)
- Xu, Binyan (2008).Mathematischen Spaziergang durch Shanghai. In: Mathematiklehren. Germany. (German)
- Xu, Binyan (2007): Von der Wissens- zur Kompetenzorientierung? Zur Diskussion über Bildungsstandards in China am Beispiel des Mathematikunterrichts. In Dietrich Benner (ed.): Bildungsstandards Instrumente zur Qualitaetssicherung im Bildungswesen Chancen und Grenzen – Beispiele und Perspektiven. Verlag Ferdinand Schoeningh. P.187-202. (German)
- Xu, Binyan (2007): An Analysis of the Theory and it's Impaction of German's Teacher Education Standard. In: Elementary and secondary education in foreign countries, 2007 (2). P. 13-17. (Chinese)
- Sjuts, Johann & Xu, Binyan (2006): Befunde aus empirischen Studien zum mathematischen Denken unter besonderer Berücksichtigung von Metakognition. In: Beitrage zum Mathematikunterricht 2006. (German)
- Xu, Binyan (2006): How Teacher understands Students? In: Global Education. 2006 (2) (Chinese)

- Xu, Binyan (2005): Die Mathematische Curriculumsreform in China und Ihre Auswirkungen auf die didaktische Konzeption von Schulbüchern. In Christa Kaune & Inge Schwank & Johann Sjuts (ed.): Mathematikdidaktik im Wissenschaftsgefüge: Zum Verstehen und Unterrichten mathematischen Denkens. Schriftenreihe des FMD Nr. 40.2, Osnabrück. P.221-230. (German)
- Xu, Binyan (2004): The Effects of Different Representations on Mathematics Learning of Chinese Children. In Fan, Lianghuo & Wong, Ngai Ying & Cai, Jinfa & Li, Shiqi (ed.): How Chinese Learn Mathematics: Perspectives from Insiders. World Scientific. P. 483-502. (English)
- Xu, Binyan (2004): Mathematics Learning in the Context of Chinese Local Culture: A Case Study in Constructivist Perspective. In Wang, Jianpan & Xu, Binyan (ed): Trends and Challenges in Mathematics Education. East China Normal University Press. P. 71-84. (English)

Books

- Xu, Binyan, Zhu, Yan & Lu, Xiaoli. Beyond Shanghai and PISA: Cognitive and non-cognitive competencies of Chinese students in mathematics. Springer Cham. 2021. (English)
- Xu, Binyan (2019). Research on mathematical competences. Shanghai: East China Normal University Press. (Chinese)
- Xu, Binyan & Wang, Xiuxiu (2014). Cases Exploration of Development of Primary and Secondary Schools from abroad. Fujian: Fujian Education Publishing House. (Chinese)
- Xu, Binyan (2012). Learning Culture and Instructional Design. Beijing: Educational Science Publishing House. (Chinese)
- Xu, Binyan (2009): Mathematics Curriculum Reform and Instruction. Shanghai: East China Normal University Press. (Chinese)
- Xu, Binyan & Ludwig, Matthias (2006): Mathematics Project for high school. Shanghai: East China Normal University Press. (Chinese)
- Xu, Binyan (2005): Constructing Mathematics while Problem solving. Guangzhou: Guangdong Education Publishing House. (Chinese)
- Wang, Jianpan & Xu, Binyan (2004): Trends and Challenges in Mathematics Education. Shanghai: East China Normal University Press. (English)