

Ying Xu

University of California, Irvine

School of Education

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EXPERTISE

Areas Interactive technologies for families and children; human-computer interaction; computer-mediated communication; conversational interfaces

Methods Design-based implementation research; experimental design; survey design; interviews; multilevel modeling; causal inference; behavioral and discourse analysis; social network analysis; log data extraction and analysis

EDUCATION

2020 **Ph.D. in Education** (specialization: Language, Literacy, and Technology)

University of California, Irvine

Dissertation: Learning with Conversational Agents

Committee: Mark Warschauer (Chair, UC Irvine Education), Stacy Branham (UC Irvine Informatics), Young-suk Kim (UC Irvine Education), Penelope Collins (UC Irvine Education), Arthur Graesser (University of Memphis Psychology and Institute for Intelligent Systems)

2012 **M.A. in Comparative Literature**

Jinan University, China

2010 **B.A. in Chinese Language and Literature**

Sun Yat-Sen University, China

HONORS/AWARDS

2021 Best Paper Award Honorable Mention at the 2021 American Educational Research Association annual (AERA) conferences, Technology as an Agent of Change in Teaching and Learning Special Interest Group

2020 Best Paper Award Honorable Mention at the 2020 ACM Conference on Interaction Design and Children

2020 Research and Design Competition Honorable Mention at the 2020 ACM Conference on Interaction Design and Children

- 2020** Doctoral Consortium at the 2020 ACM Conference on Interaction Design and Children
- 2020** Grad Slam Finalist (Scientific Communication Competition) UC Irvine
- 2019** Public Impact Distinguished Fellow UC Irvine
- 2019** Best Short Paper Award at the 2019 ACM Conference on Interaction Design and Children
- 2018** Best Paper Award Honorable Mention at the 2018 American Educational Research Association annual (AERA) conferences, Technology as an Agent of Change in Teaching and Learning Special Interest Group

GRANT FUNDING

- 2021-2022** Schmidt Futures, \$50,000
Automatic Question-Answer Generation for Narrative Comprehension Skills Learning and Assessment
PI: **Ying Xu**
- 2021-2026** NSF AISL, \$3,000,000
Developing Conversational Videos to Support Children's STEM Learning and Engagement
PI: Mark Warschauer; Co-PI: **Ying Xu**, Andres Bustamante, Silvia Lovato, Abby Jenkins
- 2018-2022** NSF AISL, \$300,000
Using Conversational Agents to Foster Preschool Children's Science Learning and Engagement from Interactive Science Videos
PI: Mark Warschauer; Graduate Student Researcher: **Ying Xu**

PUBLICATIONS

Journal Articles

- J10** **Xu, Y.**, Vigil, V., Bustamante, A., & Warschauer, M. (conditionally accepted). Contingent interaction with a television character enabled by artificial intelligence promotes children's science learning and engagement. *Journal of Applied Developmental Psychology*.
- J9** **Xu, Y.**, Aubele, J., Vigil, V., Bustamante, A., Kim, Y-S., & Warschauer, M. (2021). Dialogue with a conversational agent promotes children's story comprehension via enhanced engagement. *Child Development*. <https://doi.org/10.1111/cdev.13708>.
- J8** **Xu, Y.**, Wang, D., Collins, P., Lee, H., & Warschauer, M. (2021). Same benefits, different communication patterns: Comparing children's reading with a conversational agent vs. a human partner. *Computers & Education*. 161. 104059. <https://doi.org/10.1016/j.compedu.2020>.
- J7** **Xu, Y.**, Yau, J., & Reich, S. (2020). Press, swipe, and read: Can interactive features in e-books

facilitate engagement and learning?. *Journal of Computer Assisted Learning*.
<https://doi.org/10.1111/jcal.12480>

- J6** Umarji, O., Day, S., **Xu, Y.**, Zargar, E., Connor, C., & Yu, R. (2020). Opening the black box: User-log analysis of children's e-book reading and association with word knowledge. *Reading and Writing*. <https://doi.org/10.1007/s11145-020-10081-x>
- J5** Reich, S., Yau, J., **Xu, Y.**, Muskat, T., Campbell, J., & Cannata, D. (2019). Digital or print? A comparison of preschooler's comprehension, vocabulary, and engagement from a print book and an eBook. *AERA Open*. 5(3), 1-16. <https://doi.org/10.1177/2332858419878389>
- J4** **Xu, Y.**, Xu, D., Simpkins, S., & Warschauer, M. (2019). Does it matter which parent is absent?: Labor migration, parenting, and adolescent development in China. *Journal of Child and Family Studies*. 28(6), 1635-1649. <https://doi.org/10.1007/s10826-019-01382-z>
- J3** Tate, T., Collins, P., **Xu, Y.**, Yau, J., Krishnan, J., Prado, Y., Farkas, G., & Warschauer, M. (2019). Visual-syntactic text format: Improving adolescent literacy. *Scientific Studies of Reading*. 23(4), 287-304. <https://doi.org/10.1080/10888438.2018.1561700>
- J2** Park, Y., **Xu, Y.**, Collins, P., Farkas, G., & Warschauer, M. (2018). Scaffolding learning of language structures with visual-syntactic text formatting. *British Journal of Educational Technology*. 50(4), 1896-1912. <https://doi.org/10.1111/bjet.12689>
- J1** **Xu, Y.** (2014) Rethinking literacy education in the digital era: Digital storybook as a learning tool for young children, *China Educational Technology*. 333(10): 29-35.

Referred Conference Proceedings

- CP13** **Xu, Y.**, Wang, D., Yu, M., Ritchie, D., Yao, B., Wu, T., Zhang, Z., Li, T., Bradford, N., Sun, B., Hoang, T., Sang, Y., Hou, Y., Ma, X., Yang, D., Peng, N., Yu, Z., & Warschauer, M. (2022). Fantastic questions and where to find them: FairytaleQA— An authentic dataset for narrative comprehension. *Association for Computational Linguistics*.
- CP12** Yao, B., Wang, D., Wu, T., Zhang, Z., Li, T., Yu, M., & **Xu, Y.*** (2022). It is AI's turn to ask humans a question: Question and answer pair generation for children's storybooks. *Association for Computational Linguistics*. *Corresponding author
- CP11** **Xu, Y.**, Vigil, V., Bustamante, A., & Warschauer, M. (2022). "Elinor's talking to me!": Integrating conversational ai into children's science narrative programming. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*.
<https://doi.org/10.1145/3491102.3502050>
- CP10** Zhang, Z., **Xu, Y. †**, Wang, Y., Yao, B., Ritchie, D., Wu, T., Yu, M., Wang, D., & Li, T. (2022). Storybuddy: A human-AI collaborative agent for parent-child interactive storytelling. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*.
<https://doi.org/10.1145/3491102.3517479> † Equally contributing first author

- CP9** Xu, Y., Branham, S., Collins, P., Deng, X., Warschauer, M. (2021). Are current voice interfaces designed to support children's language development? In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*.
<https://doi.org/10.1145/3411764.3445271>
- CP8** Kalinowski, R., Xu, Y., & Salen, K. (2021). The ecological context of preschool-aged children's selection of media content. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. <https://doi.org/10.1145/3411764.3445429>
- CP7** Xu, Y., & Warschauer, M. (2020). Wonder with Elinor: Designing a socially contingent video viewing experience. In *Proceedings of the 19th ACM International Conference on Interaction Design and Children (IDC '20)*. Association for Computing Machinery, New York, NY, USA.
<https://doi.org/10.1145/3397617.3398024> **(Research and Design Competition Honorable Mention)**
- CP6** Xu, Y., & Warschauer, M. (2020). Exploring young children's engagement in joint reading with a conversational agent. In *Proceedings of the 19th ACM International Conference on Interaction Design and Children (IDC '20)*. Association for Computing Machinery, New York, NY, USA.
<https://doi.org/10.1145/3392063.3394417>
- CP5** Xu, Y., & Warschauer, M. (2020). A content analysis of voice-based apps on the market for early literacy development. In *Proceedings of the 19th ACM International Conference on Interaction Design and Children (IDC '20)*. Association for Computing Machinery, New York, NY, USA.
<https://doi.org/10.1145/3392063.3394418> **(Best Paper Award Honorable Mention)**
- CP4** Xu, Y., & Warschauer, M. (2020). "Elinor is talking to me on the screen!" Integrating conversational agents into children's television programming. In *CHI Conference on Human Factors in Computing Systems Extended Abstracts*. April 25-30, 2020, Honolulu, HI. ACM.
<https://doi.org/10.1145/3334480.3383000>
- CP3** Xu, Y., & Warschauer, M. (2020). What are you talking to?: Understanding children's perceptions of conversational agents. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*. April 25-30, 2020, Honolulu, HI. ACM.
<https://doi.org/10.1145/3313831.3376416>
- CP2** Xu, Y., Yau, J.C., & Reich, S. (2019). The added challenge of digital reading: Exploring young children's page turning behaviors. In *Proceedings of the 2019 Conference on Interaction Design and Children*. June 12-15, 2019, Boise, ID. ACM. <https://doi.org/10.1145/3311927.3323121>
(Best Short Paper Award)
- CP1** Xu, Y., & Warschauer, M. (2019). Young children's reading and learning with conversational agents. In *CHI Conference on Human Factors in Computing Systems Extended Abstracts*. May 4-9, 2019, Glasgow, Scotland, UK. ACM. <https://doi.org/10.1145/3290607.3299035>

Book Chapters

- BC3** Xu D., & **Xu Y.** (2020) The ambivalence about distance learning in higher education. In: Perna L. (eds). *Higher Education: Handbook of Theory and Research*, vol 35. Springer, Cham
- BC2** Warschauer, M., & **Xu, Y.** (2018). Technology and Equity in Education. In J. Voogt, G. Knezek, R. Christensen, & K-W. Lai (Eds.) *International Handbook of Information Technology in Primary and Secondary Education* New York: Springer US. https://doi.org/10.1007/978-3-319-53803-7_76-1
- BC1** **Xu, Y.** & Warschauer, M. (2018). Language and digital divide. In B. Warf (Ed.) *The Sage Encyclopedia of the Internet*. Thousand Oaks, CA: SAGE.

Conference Workshop Papers/Doctoral Consortium

- WP2** **Xu, Y.**, Zheng, Z., Wang, H., Yao, B., Ritchie, D., Wu, T., Yu, M., Wang, D., & Li, T. (2021). Building an interactive storytelling conversational agent through parent-AI collaboration. CUI@CSCW Workshop: Inclusive and Collaborative Child-facing Voice Technologies.
- WP1** **Xu, Y.** (2020). Using conversational agents to foster young children's science learning from screen media. In Proceedings of the 19th ACM International Conference on Interaction Design and Children (IDC '20). Association for Computing Machinery, New York, NY, USA. <https://doi.org/10.1145/3397617.3398031>

Research Report

- R1** Xu, D., & **Xu, Y.** (March 2019). The promises and limits of online higher education: Understanding how distance education affects access, cost, and quality. American Enterprise Institute. <http://www.aei.org/publication/the-promises-and-limits-of-online-higher-education/>

Public Dataset

- D2** **Xu, Y.**, Ritchie, D., Mo, Y., & Wang, D. (2022). FairytaleQA: An authentic large-scale dataset for narrative comprehension. <https://github.com/uci-soe/StoryQAData>
- D1** **Xu, Y.**, & Warschauer, M. (2021). Conversational Agents for Dialogic Reading, Dryad, Dataset, [doi:10.7280/D10Q3P](https://doi.org/10.7280/D10Q3P)

Manuscripts Under Review

- UR2** Yang, D., **Xu, Y.**, Zheng, Z., Collins, P., & Warschauer, M. (under review). Designing a touchscreen interactive storybook: promoting bilingual literacy skills and parent-child joint media engagement.
- UR1** Hoang, T., Sun, B., & **Xu, Y.*** (under review). The interplay between children's perceptions of and communication with conversational agents. **Corresponding Author*

CONFERENCE PRESENTATIONS

- P28 Xu, Y.** (April 2022). Socially interactive learning with conversational agents. Invited talk at the Cognitive Development Society preconference workshop, Madison, WI.
- P27 Wong, A., Xu, Y & Warschauer, M.** (April 2022). Promoting active engagement in science learning using artificial intelligence. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA.
- P26 Xu, Y.** (July 2021). AI Reading Partner for Language Development. Connected Learning Summit, Virtual conference.
- P25 Vigil, V., Xu, Y., Yang, D., Bustamante, A., Warschauer, M.** (July 2021). Promoting social interaction in young children's digital learning. Connected Learning Summit, Virtual conference.
- P24 Xu, Y., & Warschauer, M.** (June 2021). Using conversational agents to support science learning from animated television shows. Artificial Intelligence in Education, Virtual conference.
- P23 Deng, X., Song, Y., & Xu, Y.** (April, 2021). Young children's reading with conversational agents: The role of age and language status. Paper accepted at the Annual Meeting of the American Educational Research Association, Virtual conference. **(Nominated for Best Paper Award in the Technology as an Agent of Change in Teaching and Learning (TACTL) SIG)**
- P22 Warschauer, M., & Xu, Y.** (September 2020). Can conversational agents support children's learning?. Conference on Educational Data Science, Stanford, CA (Virtual conference).
- P21 Xu, Y.** (June 2020). Using conversational agents to foster young children's science learning from screen media. Doctoral Consortium proposal to be presented at the at the ACM Conference on Interaction Design and Children, London, UK (Virtual conference).
- P20 Xu, Y., Hoang, T., Sun, B, & Warschauer, M.** (April 2020). What are you talking to?: Understanding children's perceptions towards conversational agents. Paper accepted at the Annual Meeting of the American Educational Research Association, San Francisco, CA (Conference canceled).
- P19 Xu, Y., Lee, H., Bautista S., & Warschauer, M.** (April 2020). Examining the effect of a conversational agent as a reading partner. Paper accepted at the Annual Meeting of the American Educational Research Association, San Francisco, CA (Conference canceled).
- P18 Xu, Y., & Warschauer, M.** (October 2019). Conversational agents as educational video co-viewers for young children. Paper to be presented at the 2019 Connected Learning Summit, Irvine, CA.
- P17 Xu, Y., Wang, D.Q., Yau, J., Han, H., & Warschauer, M.** (April 2019). Reading in a community: How social affordances of an eBook platform motivate children to read. Paper presented at the Annual Meeting of the American Educational Research Association, Toronto, Canada.
- P16 Xu, Y., Prado, Y., Collins, P., & Warschauer, M.** (April 2019). Effective teaching in the digital classroom: A mixed-method study of middle school English language arts classes. Poster presented at the Annual Meeting of the American Educational Research Association, Toronto, Canada.

- P15** **Xu, Y.**, Yau, J., & Reich, S. (April 2019). Press, swipe, and read: Can interactive features in e-books facilitate engagement and learning? Poster presented at the Annual Meeting of the American Educational Research Association, Toronto, Canada.
- P14** Umarji, O., **Xu, Y.**, Zargar, E., Yu, R., Yang, M., Day, S., & Connor, C. (April 2019). Opening the Black Box: Log Analyses of E-Book Engagement and Vocabulary Growth. Paper presented at the Annual Meeting of the American Educational Research Association, Toronto, Canada
- P13** Yau, J.C., Krishnan, J., **Xu, Y.**, Tate, T., Farkas, G., Collins, P., & Warschauer, M. Better Together: How Teacher Collaboration Supports Implementation and Student Learning During a Large-Scale Technology Intervention. Paper presented at the Annual Meeting of the American Educational Research Association, Toronto, Canada
- P12** Collins, P., Tate, T., **Xu, Y.**, Krishnan, J., Prado, Y., Yau, J., Farkas, G., & Warschauer, M. (April 2019). Visual Syntactic Text Formatting: Influences on Teacher Practices, Student Achievement, and Student Engagement. Paper presented at the Annual Meeting of the American Educational Research Association, Toronto, Canada
- P11** **Xu, Y.**, Yau, J., & Reich, S. (March 2019). The added challenge of eBook reading: Exploring children's page-turning behaviors. Paper presented at the Biennial Meeting of the Society for Research in Child Development, Baltimore, MD.
- P10** Yau, J.C., **Xu, Y.**, Prado, Y., Farkas, G., Collins, P., & Warschauer, M. Factors Influencing Students' Preferences for Reading Digitally. Poster presented at the Biennial Meeting of the Society for Research in Child Development, Baltimore, MD.
- P9** **Xu, Y.**, Yau, J., & Reich, S. (August 2018). Reading with hotspots: Exploring young children's haptic engagement with touchscreen stories. Poster presented at the American Psychological Association Annual Convention, San Francisco, CA.
- P8** **Xu, Y.**, Yau, J., Warschauer, M., & Collins, P. (2018, April). Examining the role of teacher efficacy in the implementation of a large-scale technology-based intervention. Paper to be presented at the Annual Meeting of the American Educational Research Association, New York. **(Nominated for Best Paper Award in the Technology as an Agent of Change in Teaching and Learning (TACTL) SIG)**
- P7** **Xu, Y.**, Yau, J., & Reich, S. (2018 April). Understanding preschool children's engagement and learning with interactive ebooks. Paper to be presented at the Annual Meeting of the American Educational Research Association, New York.
- P6** **Xu, Y.**, Wang, D.Q., Yau, J., & Warschauer, M. (2018 May). Reading in a community: how social affordances of an ebook platform motivate children to read. Paper to be presented at the Digital Learning in the Humanities and Beyond Symposium, Irvine, CA.
- P5** **Xu, Y.**, Yau, J., & Reich, S. (April 2018). Tablet for independent reading?: exploring young children's page navigation and story comprehension. Poster presented at the American Psychological Association: Technology, Mind, and Society, Washington, DC.
- P4** Umarji, O., **Xu, Y.**, Yu, R.Z., Zargar, E., Day, S., & Connor, C. (2018 May). E-book Affordances: An Intervention for Digitally Scaffolding Young Readers. Paper to be presented

at the Digital Learning in the Humanities and Beyond Symposium, Irvine, CA.

P3 Krishnan, J., Tate, T., Yau, J., **Xu, Y.**, Prado, Y., Collins, P., Farkas, G., & Warschauer, M. (January 2018). Digital Scaffolding for English Language Arts. Poster Presented at the Institute of Education Science's Principal Investigators' Meeting, Washington, D.C.

P2 **Xu, Y.**, Xu, D., Simpkins, S., & Warschauer, M. (2017 April). Does it matter which parent is absent?: Labor Migration, Parenting, and Adolescent Development in China. Paper to be presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX.

P1 Zhou, N., Vu, V., **Xu, Y.** & Warschauer, M. (April, 2017) Enhancing Teachers' Self-Efficacy in Integrating Digital Storytelling in the Classroom. Poster accepted at the annual conference the American Education Research Association, San Antonio, TX.

SERVICE

Professional Service

I serve as a reviewer for the following journals and conferences:

Cognitive Science

Frontiers in Psychology

Journal of Family Psychology

AERA Open

Journal of Computer Assisted Learning

British Journal of Educational Technology

Educational Researcher

Research in Higher Education

ACM CHI Conference on Human Factors in Computing

ACM Conference on Interaction Design and Children (IDC)

ACM Conference on Designing Interactive Systems, (DIS)

ACM Conference on Computer Collaborative Work (CSCW)

American Educational Research Association

American Psychological Association

Technology, Society, and Mind conference

I serve on the reviewer panel for the following funding agencies/programs:

NSF Research on Emerging Technologies for Teaching and Learning (RETTL) Program

Schmidt Futures

University Service

2017- Mentor, UC Irvine Undergraduate Research Opportunities Program

- 2017-* Mentor, UC Irvine Summer Undergraduate Research Program
- 2020* Mentor, UC Irvine Competitive Edge Program
- 2016-2019* Coordinator, UC Irvine Digital Learning Lab Seminar
- 2018* Conference Committee, Digital Learning in the Humanities and Beyond

Community Service

- 2021-* Collaborator, PBS SoCal Family Math
- 2021* Volunteer, Irvine Unified School District Science Fair
- 2017* Volunteer, Irvine Unified School District Science Fair
- 2016-2017* Volunteer classroom technology implementation support, Garden Grove United School District

TEACHING EXPERIENCE

- 2021* Guest Lecture. EDUC 212 Literacy and Technology, UC Irvine
- 2020* Guest Lecture. EDUC 30 21st Century Literacies, UC Irvine
- 2020* Instructor. R Workshop for Education Research
- 2020* Instructor. EDUC 198 Designing Socially Interactive Technologies
- 2019* Instructor. EDUC 199 Conversational Agents: Design and Evaluation
- 2019* Guest Lecture. EDUC 212 Literacy and Technology, UC Irvine
- 2019* Instructor. R Workshop for Education Research
- 2019* Guest Lecture. EDUC 30 21st Century Literacies, UC Irvine
- 2018* Graduate Teaching Assistant. EDUC 358 Media and Information Literacy, UC Irvine

WORK EXPERIENCE

- 2015-2016* **Research Specialist**, Digital Learning Lab at UC Irvine
- 2012-2014* **Digital Media Designer**, Guangdong Publishing Group, Guangdong, China

LANGUAGES

Native/bilingual proficiency in English, Mandarin, and Cantonese