Community for Advancing Discovery Research in Education

CADRE Learning Series

Using Video in Education Research

Resource List

Panelist Slides, Publications, Citations, and Recommended Resources

This list of publications, citations, and other resources was compiled from the CADRE Learning Series webinar on January 27, 2023 by panelists in presentation order. View a recording of the webinar.

Lani Horn, Vanderbilt University

Slides | Introduction
Learn more about Lani's DRK-12 work: https://cadrek12.org/users/ilana-horn

Suggested Resources & Citations

- Calandra, B., & Rich, P. (2014). Digital Video for Teacher Education. Taylor & Francis.
- Derry, S. J., Pea, R. D., Barron, B., Engle, R. A., Erickson, F., Goldman, R., ... & Sherin, B. L. (2010). Conducting video research in the learning sciences: Guidance on selection, analysis, technology, and ethics. The journal of the learning sciences, 19(1), 3-53.
- Hall, R. (2000). Video recording as theory. In A. Kelley & R. Lesh (Eds.), Handbook of research design in mathematics and science education (pp. 647–664). Erlbaum. https://doi.org/10.1080/10508400903452884

Erica N. Walker, Columbia University

Slides | Storytelling for Mathematics Learning and Engagement
Learn more about Erica's DRK-12 work: https://cadrek12.org/users/erica-walker

Suggested Resources & Citations

- Digital mathematics story *Conversations with: Dr. Tasha Inniss*
- Link to database with videos https://sites.google.com/tc.columbia.edu/storytellingformathematics/home
- Streamyard https://streamyard.com/
- Temi https://www.temi.com/

Joanne Lobato, San Diego University

Slides | MathTalk
Learn more about Joanne's DRK-12 work: https://cadrek12.org/users/joanne-lobato

Suggested Resources & Citations

- Website for MathTalk
- Cargile, L. A., & Harkness, S. S. (2015). Flip or flop: Are math teachers using Khan Academy as envisioned by Sal Khan? TechTrends, 59(6), 21-28.
- Klinger, M., & Walter, D. (2022). How Users Review Frequently Used Apps and Videos Containing Mathematics. International Journal for Technology in Mathematics Education, 29(1), 25-35.

- Lobato, J., & Walker, C. (2019). How Viewers Orient Toward Student Dialogue in Online Math Videos. Journal of Computers in Mathematics and Science Teaching, 38(2), 177-200.
- Lobato, J., Walters, C., & Walker, C. (2016, April). Beyond the demonstration of procedures in YouTube-style math videos. Paper presented at the NCTM Research Conference, San Francisco, CA.
- Muller, D. (2008). Designing effective multimedia for physics education (Doctoral dissertation, University of Sydney Australia).
- Walters, C. D. (2017). The development of mathematical knowledge for teaching for quantitative reasoning using video-based instruction. (Doctoral dissertation, San Diego State University and University of California at San Diego). Retrieved from https://escholarship.org/uc/item/8484s8zf

Nanette Seago, WestEd

Slides | Video in the Middle
Learn more about Nanette's DRK-12 work: https://cadrek12.org/users/nanette-seago

Suggested Resources & Citations

- Video in the Middle website: https://www.videointhemiddle.com/
- van Es, E. A., Tunney, J., Goldsmith, L T., & Seago, N. (2014). A framework for the facilitation of teachers'analysis of video. Journal of Teacher Education, 65(4), 340–356. https://doi.org/10.1177/0022487114534266

Heather Hill, Harvard University

Slides | Using Video to Study Mathematics Instruction at Scale
Learn more about Heather's DRK-12 work: https://cadrek12.org/users/heather-hill

Suggested Resources & Citations

- Mathematical Quality Instruction (MQI), Coaching, and Video Library: https://cepr.harvard.edu/mqi
- Campbell, S. L., & Ronfeldt, M. (2018). Observational Evaluation of Teachers: Measuring More Than We Bargained for? American Educational Research Journal, 55(6), 1233–1267. http://www.jstor.org/stable/26643857
- Demszky, D. & Hill, H.C. (2022). The NCTE Transcripts: A Dataset of Elementary Math Classroom Transcripts. (EdWorkingPaper: 22-682). Retrieved from Annenberg Institute at Brown University: https://doi.org/10.26300/npxh-kf69
- Kane, T., Hill, H., and Staiger, D (2022). National Center for Teacher Effectiveness Main Study. Inter-university Consortium for Political and Social Research [distributor]. https://doi.org/10.3886/ICPSR36095.v4

Additional Tools and Technologies

This list of tools and technologies was compiled from the CADRE Learning Series webinar on February 10, 2023.

Video Capture

- GoReact: A recording tool that offers multi-camera support, background blur, screen sharing, live and guest review, time-coded multimodal feedback, customizable rubrics, closed captioning and more.
- Wacom Cintiq Drawing Tablet: An example of a tablet used by a project, selected because it allowed them to edit the kids' work onto the green screen they were filmed in front of, coordinating their work and their interaction in the final videos.
- The Swivl Robot: A recording tool that captures video artifacts for reflection, coaching, and collaboration conversations.

Video Preparation

- FinalCut Pro: Video editing software (only works with Macs)
- Adobe Premiere Pro: Another video editing software option that works with PCs and Macs.

Data Analysis

- Vosaic: Application designed specifically for video, however, the coding is not dynamic so it works best with a priori (as opposed to inductive) codes. Record videos using any camera or mobile device. Securely share videos with individuals or groups. Use custom rubrics to mark-up & code videos for feedback, coaching, observation, or analysis.
- MAXQDA and Nvivo are two data analysis applications that work well with inductive codes but weren't designed for video research.