

Preparing All Students for Algebra: Applying Research-Based Strategies

January 24, 2018, 8:00 a.m.-12:00 p.m. Harrisonburg, VA

Handout 3: Algebra and Student Success Card Sort—References Cited

- Allensworth, E. M., Nomi, T., Montgomery, N., & Lee, V. E. (2009). College preparatory curriculum for all: Academic consequences of requiring algebra and English I for ninth graders in Chicago. *Educational Evaluation and Policy Analysis*, *31*(4), 367-391. doi:10.3102/0162373709343471
- Diezmann, C. M., & English, L. D. (2001). Promoting the use of diagrams as tools for thinking. In A. A.
 Cuoco & F. R. Curcio (Eds.), *The roles of representation in school mathematics: 2001 yearbook* (pp. 77–89). Reston, VA: National Council of Teachers of Mathematics.
- Empson, S. B., Levi, L., & Carpenter, T. P. (2011). The algebraic nature of fractions: Developing relational thinking in elementary school. In J. Cai & E. J. Knuth (Eds.), *Early algebraization: A global dialogue from multiple perspectives* (pp. 409–428). New York, NY: Springer.
- Katz, V. J. (Ed.). (2007) *Algebra: Gateway to a technological future*. Washington, DC: Mathematical Association of America.
- Lamon, S. J. (2007). Rational numbers and proportional reasoning. In F. K. Lester (Ed.), *Second handbook of research on mathematics teaching and learning* (pp. 629–666). Charlotte, NC: Information Age.
- Lanius, C., & Williams, S. (2003). Proportionality: A unifying theme for the middle grades. *Mathematics Teaching in the Middle School, 8*, 392–396.
- Lesh, R., Post, T., & Behr, M. (1988). Proportional reasoning. In J. Hiebert & M. Behr (Eds.), *Number concepts and operations in the middle grades*. (pp. 93–118). Reston, VA: Lawrence Erlbaum & National Council of Teachers of Mathematics.
- National Mathematics Advisory Panel. (2008). *Foundations for success: The final report of the National Mathematics Advisory Panel*. U.S. Department of Education. <u>https://eric.ed.gov/?id=ED500486</u>
- Oakes, J. (1990). Opportunities, achievement, and choice: Women and minority students in science and mathematics. In C. B. Cazden (Ed.), *Review of research in education*, (Vol. 16, 153–222). Washington, D.C.: AERA
- Siegler, R. S., Carpenter, T., Fennell, F., Geary, D., Lewis, J., Okamoto, Y., Thompson, L., & Wray, J. (2010). Developing effective fractions instruction for kindergarten through 8th grade: A practice guide (NCEE #2010-4039). Washington DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from whatworks.ed.gov/publications/practiceguides.
- Siegler, R. S., Duncan, G. J., Davis-Kean, P. E., Duckworth, K., Claessens, A., Engel, M., et al. (2012). Early predictors of high school mathematics achievement. *Psychological Science*, *23*(7), 691–697.
- Star, J. R., Caronongan, P., Foegen, A., Furgeson, J., Keating, B., Larson, M. R.,...Zbiek, R.M. (2015). *Teaching strategies for improving algebra knowledge in middle and high school students* (NCEE 2014-4333). Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education. Retrieved from NCEE website: http://whatworks.ed.gov.



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- Stein, M. K., Kaufman, J. H., Sherman, M., & Hillen, A. F. (2011). A challenge at the crossroads of policy and practice. *Review of Educational Research*, *81*(4), 453–492.
- Stylianou, D. A. (2002). On the interaction of visualization and analysis: The negotiation of a visual representation in expert problem solving. *Journal of Mathematical Behavior, 21*(3), 303–317.
- Stylianou, D. A., & Silver, E. A. (2004). The role of visual representations in advanced mathematical problem solving: An examination of expert-novice similarities and differences. *Mathematical Thinking and Learning*, *6*(4), 353–387.
- Terwel, J., van Oers, B., van Dijk, I., & van den Eeden, P. (2008). Are representations to be provided or generated in primary mathematics education? Effects on transfer. *Educational Research and Evaluation*, *15*(1), 25–44.
- Tierney, W. G., Bailey, T., Constantine, J., Finkelstein, N., & Hurd, N. F. (2009). *Helping students navigate the path to college: What high schools can do* (NCEE No. 2009-4066). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. <u>https://eric.ed.gov/?id=ED506465</u>
- Woodward, J., Beckmann, S., Driscoll, M., Franke, M., Herzig, P., Jitendra, A.,...Ogbuehi, P. (2012). *Improving mathematical problem solving in grades 4 through 8: A practice guide* (NCEE 2012-4055). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/www/publications_reviews.aspx#pubsearch/.