

# What are the best approaches for teaching mathematics to newcomers to the U.S. who are English learners??

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SUPPLEMENT ONE — REFERENCES

## **References By Sections**

National Academies of Sciences, Engineering, and Medicine (2018). *English learners in STEM subjects: Transforming classroom, schools, and lives.* Washington, DC: The National Academies Press. <u>https://doi.org/10.17226/25182</u>

## The Evidence

#### Placement

- Artiles, A. J., Kozleski, E. B., Trent, S. C., Osher, D., & Ortiz, A. (2010). Justifying and explaining disproportionality, 1968– 2008: A critique of underlying views of culture. *Exceptional Children*, 76, 279–299. <u>https://doi.org/10.1177/001440291007600303</u>
- Ginsburg, H. (1997). Entering the child's mind: The clinical interview in psychological research and practice. New York: Cambridge University Press.
- Morgan, P. L., Farkas, G., Cook, M., Strassfeld, N. M., Hillemeier, M. M., Pun, W. H., ... Schussler, D. L. (2018). Are Hispanic, Asian, Native American, or Language-Minority Children Overrepresented in Special Education? *Exceptional Children*, 84(3), 261–279. <u>https://doi.org/10.1177/0014402917748303</u>
- Morgan, P. L., Farkas, G., Hillemeier, M. M., Mattison, R., Maczuga, S., Li, H., & Cook, M. (2015). Minorities Are Disproportionately Underrepresented in Special Education: Longitudinal Evidence Across Five Disability Conditions. *Educational Researcher*, 44(5), 278–292. https://doi.org/10.3102/0013189X15591157
- Mosqueda, E. (2010). Compounding Inequalities: English Proficiency and Tracking and Their Relation to Mathematics Performance Among Latina/o Secondary School Youth. Journal of Urban Mathematics Education, 3(1), pp. 57-. https://doi.org/10.21423/jume-v3i1a47
- Mosqueda, E., & Maldonado, S. I. (2013). The effects of English language proficiency and curricular pathways: Latina/os' mathematics achievement in secondary schools. *Equity & Excellence in Education*, 46(2), 202-219. https://doi.org/10.1080/10665684.2013.780647
- Perkins, I., & Flores, A. (2002). Mathematical notations and procedures of recent immigrant students. *Mathematics Teaching in the Middle School*, 7, 346-35.
- Rueda, R., & Windmueller, M.P. (2006). English language learners, LD, and over- representation a multiple-level analysis. *Journal of Learning Disabilities*, 39(2), 99-107. https://doi.org/10.1177/00222194060390020801
- Sanatullova-Allison, E., Robison-Young, V. (2016). Overrepresentation: An overview of the issues surrounding the identification of English language learners with learning disabilities. *International Journal of Special Education*, 31(2).
- Sullivan, A. L. (2011). Disproportionality in special education identification and placement of English language learners. *Exceptional Children*, 77(3), 317-334.

## Instruction

- Civil, M., & Turner, E. E. (2014). Introduction. In M. Civil & E. E. Turner (Eds.), *The Common Core State Standards in mathematics for English language learners: Grades K-8* (pp. 1-5). Alexandria, VA: TESOL International Association.
- Coggins, D., Kravin, D., Coates, G. D, & Carroll, M. D. (2007). English language learners in the mathematics classroom. Thousand Oaks, CA: Corwin Press.



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- de Araujo, Z., Roberts, S. A., Willey, C., & Zahner, W. (2018). English learners in K-12 mathematics education: A review of the literature. *Review of Educational Research*, 88, 879-919. https://doi.org/10.3102/0034654318798093
- Moschkovich, J. (2002). A situated and sociocultural perspective on bilingual mathematics learners. Mathematical Thinking & Learning, 4, 189–212. https://doi.org/10.1207/S15327833MTL04023\_5
- Moschkovich, J. (2013). Principles and guidelines for equitable mathematics teaching practices and materials for English language learners. Journal of Urban Mathematics Education, 6, 45-57.

National Council of Teachers of Mathematics. (2014). Principles to actions: Ensuring mathematical success for all. Reston, VA: Author.

- Ramirez, N., & Celedón-Pattichis, S. (2012). Second language development and implications for the mathematics classroom. In S. Celedón-Pattichis & N. Ramirez (Eds.), *Beyond good teaching: Advancing mathematics education for ELLs* (pp. 19-37). Reston, VA: National Council of Teachers of Mathematics.
- Turner, E. E., Drake, C., McDuffie, A. R., Aguirre, J., Bartell, T. G., & Foote, M. Q. (2012). Promoting equity in mathematics teacher preparation: A framework for advancing teacher learning of children's multiple mathematics knowledge bases. *Journal of Mathematics Teacher Education*, 15, 67–82. <u>https://doi.org/10.1007/s10857-011-9196-6</u>
- Wong Fillmore, L. (2007). English learners and mathematics learning: Language issues to consider. In A. H. Schoenfeld (Ed.). Assessing mathematical proficiency (pp. 333–344). New York, NY: Cambridge University Press.

#### **Building Community**

- Civil, M. (2007). Building on community knowledge: An avenue to equity in mathematics education. In N. Nasir & P. Cobb (Eds.), *Improving access to mathematics: Diversity and equity in the classroom* (pp. 105-117). New York: Teachers College Press.
- Civil, M. (2016). STEM learning research through a funds of knowledge lens. Cultural Studies of Science Education, 11(1), 41-59. https://doi. org/10.1007/s11422-014-9648-2
- Civil, M., & Andrade, R. (2003). Collaborative practice with parents: The role of the researcher as mediator. In A. Peter-Koop, V. Santos-Wagner, C. Breen, & A. Begg (Eds.), Collaboration in teacher education: Examples from the context of mathematics education (pp. 153-168). Boston, MA: Kluwer.
- Civil, M., Bratton, J., & Quintos, B. (2005). Parents and mathematics education in a Latino community: Redefining parental participation. *Multicultural Education*, 13(2), 60-64.
- González, N., Moll, L. C., & Amanti, C. (Eds.) (2005). Funds of knowledge: Theorizing practice in households, communities, and classrooms. Mahwah, NJ: Erlbaum.
- Orellana, F. M. (2016). Immigrant children in transcultural spaces: Language, learning and love. New York, NY: Routledge.

#### Conclusion

National Council of Supervisors of Mathematics and TODOS Mathematics for All (2016). *Mathematics Education through the Lens of Social Justice: Acknowledgement, Access and Accountability* [Joint Position Statement]. Retrieved from: <u>https://www.todos-math.org/socialjustice</u>



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