

## SUMMARY OF HSOS RESEARCH FINDINGS

Evaluations of our workshops have yielded a great deal of insight regarding the effectiveness of A Head Start on Science professional development. And while internal evaluation has been a routine part of the project, we have also supported a series of external evaluations. The first was a peer review by the National Science Foundation (NSF) in 2010. The second was a review by the National Academies of Sciences, Engineering, and Medicine (NASEM) in 2011. The third was a review by the National Center for Education Statistics (NCEM) in 2012. The fourth was a review by the National Center for Education Policy (NCEP) in 2013. The fifth was a review by the National Center for Education Policy (NCEP) in 2014. The sixth was a review by the National Center for Education Policy (NCEP) in 2015. The seventh was a review by the National Center for Education Policy (NCEP) in 2016. The eighth was a review by the National Center for Education Policy (NCEP) in 2017. The ninth was a review by the National Center for Education Policy (NCEP) in 2018. The tenth was a review by the National Center for Education Policy (NCEP) in 2019. The eleventh was a review by the National Center for Education Policy (NCEP) in 2020. The twelfth was a review by the National Center for Education Policy (NCEP) in 2021. The thirteenth was a review by the National Center for Education Policy (NCEP) in 2022. The fourteenth was a review by the National Center for Education Policy (NCEP) in 2023. The fifteenth was a review by the National Center for Education Policy (NCEP) in 2024. The sixteenth was a review by the National Center for Education Policy (NCEP) in 2025.

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skills, performing much better than the students of participating teachers in tests of scientific concepts and reasoning (Van Egeren et al., 2007).

## REFERENCES

Straits, W. J., Casillan, R., and Ritz, W. C. (2014, December). "A Head Start on Science" Professional Development Workshops. Presented at the western regional meeting of the Association for Science Teacher Education. Long Beach, CA.

Van Egeren, L. A., Watson, D., Morris, B., and Farrand, M. (2007, February). Creating School Readiness through Early Childhood Science Education: Evaluation of Head Start on Science. University Outreach & Engagement, Michigan State University, East Lansing, MI.

Von Blum, R. (1998). A Head Start on Science - Final Evaluation. National Center for Science in Early Childhood, California State University Long Beach, Long Beach, CA.

Von Blum, R. (2003). National Dissemination of A Head Start on Science - Final Evaluation Report. National Center for Science in Early Childhood, California State University Long Beach, Long Beach, CA.