

OLOS – Optimizing Learning Opportunities for Students

A tool to improve student outcomes by helping teachers provide more personalized instruction.

What is OLOS?

The Optimizing Learning Opportunities for Students (OLOS) Observation System was developed by the Early Learning Network's assessment team at the University of California, Irvine with leadership from the late Carol M. Connor, renowned scientist in language and literacy.

OLOS is a user-friendly, web-based tool designed to help teachers understand what is happening in their classrooms and uncover ways to meet the unique learning needs of each student.

OLOS has been piloted and field-tested in the network's nationwide studies. Classroom settings include Orange County, California; Fairfax County, Virginia; rural and urban school districts in Nebraska; rural counties in North Carolina; and selected school districts in Ohio.

Why Does it Matter?

Simply put: Children learn differently. Each student brings a distinct set of skills, languages and perspectives to school and may experience different learning opportunities — even within the same classroom. A one-size-fits-all approach to instruction may put some students at a disadvantage.

It is important to observe and assess learning opportunities at the child level to better capture the complexities of how instruction impacts individual children and to improve instructional quality.

ELN'S CONTRIBUTION

OLOS advances our understanding of how to personalize instruction to meet each child's learning needs and to identify broader strategies for promoting equitable and effective learning opportunities in diverse early childhood settings.

OLOS has been used successfully by teachers and researchers to measure the content and context of individual children's classroom learning experiences, and can help inform instruction for individual children over the school year when used in conjunction with assessments of literacy and math skills.



What We Learned

Research conducted by ELN teams allowed us to uncover general instructional practices in pre-K to third grade classrooms, and their association with children’s literacy and math performance.

LITERACY

- On average across the sites, students spent very little time learning letters and letter sounds in pre-K (less than 5 min. of a two-hour observation), slightly more time in kindergarten (10-15 min.), but almost no time by third grade (1 min.).^{1,6}
- For individual students, the closer the match between recommended instruction in letters and letter sounds (based on children’s skills) and learning algorithms developed by Dr. Connor, the more literacy growth was observed.^{4,6}
- When teachers’ instruction was focused on meaning (e.g., vocabulary development, story-time comprehension skills), greater growth was observed in children’s vocabulary. When teachers exceeded the amount of recommended meaning-focused instruction for individual children, this led to higher child gains.^{4,6}

MATH

- Across sites, there was little evidence of math instruction (less than 5 min. of a two-hour observation), and this instruction was not related to growth in math skills. In kindergarten, learning opportunities in math were more common and these opportunities were linked to growth in math skills, especially for children with low math skills at the beginning of the school year.^{1,3,6}
- Math experiences looked very different across pre-K and kindergarten. In pre-K, math instruction was primarily led by teachers during whole class instruction whereas in kindergarten, it was divided among whole class, small group, and individual activities led by both teachers and children.⁶
- Whole class math experiences in kindergarten were associated with lower gains in math, and this was especially true for children with low math skills. In contrast, individual math activities were linked to higher gains for kindergarteners with low math skills.^{1,3,6}

CLASSROOM USE

- Teachers can be trained in and meet high standards for accurate and reliable use of the OLOS system after either an online or in-person training.²
- Teachers reported finding the information provided by the OLOS system valuable to their instruction. They particularly liked the online teacher dashboard immediately available upon completing an observation.⁵



Dig Deeper



Watch a research presentation to learn more about the Early Learning Network’s findings related to OLOS.

To access the video, visit our [media library](#) or use your phone’s camera to scan the QR code.

Presenter: Ashley Adams Sanabria, Ph.D., CCC-SLP, *University of California, Irvine*

ENDNOTES

¹Adams, A., Connor, C. M., & Vandell, D. (2020, January). *Are children getting the instruction they need to build skills?* [Paper]. Institute of Education Sciences 2020 Principal Investigator’s Meeting. Washington, D.C., United States.

²Adams, A., Zargar, E., Hwang, J. K., Dang, D., & Vandell, D. (2021, April). Inter-observer reliability of the OLOS observation system with researchers and practitioners. In S. M. Sheridan (Chair), *Teacher practices and individual student experiences: Measuring influences on pre-Kindergarten through third grade students* [Symposium]. Society for Research on Child Development 2021 Biennial Meeting, Virtual Conference, United States.

³Connor, C. M., Adams, A., Zargar, E., Wood, T. S., Hernandez, B. E., & Vandell, D. L. (2020). Observing individual children in early childhood classrooms using Optimizing Learning Opportunities for Students (OLOS): A feasibility study. *Early Childhood Research Quarterly*, 52, 74-79.

⁴Connor, C. M., May, H., Sparapani, N., Hwang, J. K., Adams, A., Wood, T. S., & Day, S. (2022). Bringing Assessment-to-Instruction (A2i) technology to scale: Exploring the process from development to implementation. *Journal of Educational Psychology*, 114, 1495-1532.

⁵Curtis, F. & Adams Sanabria, A. (2021, November). *Use of an individualized classroom observation system by SLPs* [Paper]. American Speech and Hearing Association 2021 Convention, Washington, D.C., United States.

⁶Sanabria, A., Hwang, J. K., Zargar, E., Grimm, K., & Vandell, D. L. (under review). *Opportunities to learn in preK and K.*