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A Seven-Year Longitudinal Study of the Research Outcomes for the CASPER Physics Circus JORGE CARMONA-REYES, ANNA LANDZANDSTRA, GARY STARK, LISA TARMAN, MATT MENEFEE, LI WANG, MIKE COOK, JIMMY SCHMOKE, LORIN MATTHEWS, TRUELL HYDE, CASPER - Baylor University — The CASPER Physics Circus was specifically designed to increase student interest in science, technology, engineering and mathematics (STEM) careers where the current generation of scientists and engineers is rapidly approaching retirement age. The Physics Circus followed Waco and LaVega ISD students starting in the sixth grade and ending in the twelfth grade with this cohort group attending the Physics Circus event on the Baylor University campus, interacting with CASPER graduate students and participating in hands-on instructional activities. The event was designed as an informal learning environment intervention and operated under the discovery, project and guided-inquiry base framework wrapped in a learner-center ideology. Participating students were allowed to experiment with hands-on manipulatives while interacting with physicists, science educators and graduate students in both STEM and science education fields. Professional Development was also a part of the Physics Circus for all science teachers within the cohort. This paper presents the results of a seven-year longitudinal study on the Physics Circus and presents future plans to expand the program's effectiveness and impact.

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