

Summary of Environmental Education Impacts on Learning

Authors	Year	Title /Journal	Outcome	Methods
Lieberman, G. A., & L.L. Hoody	1998	Closing the Achievement Gap. State Education and Environment Roundtable. Using Environment as an Integrating Context (for learning) http://www.seer.org/extras/execsum.pdf	Observed benefits - better performance on standardized tests in reading, writing, math, science and social studies; Reduced discipline and classroom management problems; Increased engagement and enthusiasm for learning; Greater pride and ownership in accomplishments. For two out of three schools where traditional schools did better, it was in math, which was not incorporated into EIC program	40 study schools, interviews with > 400 students, 250 teachers and administrators, 4 surveys, comparison of standardized test scores, GPAs and attitude measures - 14 schools compared data from EIC and traditional students - 36/39 comparisons (92%)
Volk T. & B. McBeth	1998	Environmental Literacy in the United States. NAAEE	Significant cognitive and skills gains for EE students	
NEETF	2000	Environment-based Education: Creating high performance schools and students. http://www.neefusa.org/pdf/NEETF8400.pdf	Reading, math, science and social studies scores improved, discipline problems were reduced, every child had an opportunity to learn at a high level - includes summary of factors influencing achievement	Case studies of seven elementary schools that adopted environment based education EBE
Bartosh, O.	2003	Reported in Calumet Environmental Education Program Feb 2005 Issue	Scores of schools using an EE program were higher than scores of schools using traditional approaches across multiple subjects. Math 44.6/41.1; Reading 63.3/61.2; Writing 47.1/43.7; Listening 76.4/75.1; Reading ITBS 63.2/60.7; Math ITBS 65.8/63.5	77 pairs (pairing based on census data) of schools in Washington state, EE program for at least 3 yrs vs no EE Washington Stds of Learning Test and Iowa Basic
SEER	2005	The Effects of Environment-Based Education on Student Achievement Phase 2 - Cal Dept Edu SEER http://aeoe.org/resources/research/seercalifassessmentproj2.pdf	Significantly higher scores for Environment as an Integrating Context (EIC) compared to traditional schools out of 20 trials (4 schools over 5 years) for <u>2nd grade</u> : reading 9/0; math 7/1; language arts 7/1; spelling 5/2; <u>3rd grade</u> : 8/0; 11/1; 7/0; 8/0; 4th grade: 10/0; 11/2; 8/1; 6/0; 5th grade: 10/0; 11/2; 10/2; 7/0	Innovation Configuration instrument to evaluate teacher practice to select EIC and traditional schools, paired school (API ranking) comparisons, CA STAR test; elementary schools (2,3,4,5)
American Institute for Research	2005	Effects of Outdoor Education Programs for Children in California - http://aeoe.org/resources/research/AB1330/OEeffect-s-finalreport.pdf	Outdoor schools students showed significantly higher cooperation, conflict resolution, self esteem, peer relationships, problem solving, motivations, behavior, compared to control students	255 6th graders from 4 schools who attended 3 outdoor schools - at risk kids, 1 week certified programs, kids attending in spring were controls for kids attending in fall
MacGregor, B. & L. Prado	2004	Report Card on Status of Environmental Education in Washington State. Audubon Washington http://aeoe.org/news/online/EEReportCard.pdf	Students in schools using EE consistently score higher on standardized tests than students in schools without EE and have more support from parents, community and administration.	
Bartosh, O., Tudor, L., Ferguson, C. Taylor	2006	Improving Test Scores Through Environmental Education: Is it Possible? Appl Env Education & Communication 5(3): 161-169	Schools with integrated EE programs outperform non-EE schools on standardized tests – there are also significant increases in student and teacher enthusiasm, and decreases in behavioral problems	Compared student achievement in math, reading and writing within and between 40 EIC and traditional schools