Report: Want to improve your third-grade literacy rate? Teach science

DENVER – Recent research suggests early math, science and social studies knowledge may boost achievement for the nation’s youngest students and provides a better chance at future reading success – more so even than early reading skills.

*The Progress of Education Reform: Science in the Early Years*, published today by the *Education Commission of the States*, looks at the benefits associated with science education in early learning and includes recommendations for state policymakers. One key finding: Teachers report being uncomfortable teaching science.

The report outlines the case for including strong science curriculum and instructional supports in the early years by outlining the basic skills and knowledge that young children possess, describing ways that science supports learning in other subject areas and presenting evidence that supporting science instruction in the early years leads to future success in the classroom.

“Math, literacy, social studies and art can all be linked to science,” said Bruce Atchison, director of the Early Learning Institute at ECS and a former preschool teacher and administrator. “It is time to make the paradigm shift so that teachers are given the instructional opportunities to be comfortable with teaching science and how children learn science.”

Among the findings:

- Children entering kindergarten are ready to engage in science exploration, but most early learning programs do not do enough to build on those abilities.
- Science learning experiences provide rich contexts for language and literacy development.
- While all children benefit from science lessons, the most at-risk students need science the most.

The report’s author is Kimberly Brenneman, an assistant research professor at the National Institute for Early Education Research at Rutgers University, where she directs the Early Childhood STEM Lab. Among her recommendations are improved teacher preparation and professional development, since she notes teacher preparation programs do not typically emphasize science content.

Recommendations for research, policy and practice:

- **Research-based curriculum and instruction.** Policymakers should support rich, connected, evidence-based science learning experiences.
- **Stronger professional preparation.** Requirements in teacher preparation programs should be changed to include strong coursework that strengthens knowledge of science content.
- **Better professional development.** Engaging teachers with strategies for creating specific science curriculum has the potential to support more effective education in the preschool classroom.

*This is the second report ECS has released on research describing the impact math and science instruction can have on young children. The report* *Math in the Early Years* *was issued in October.*

*The Education Commission of the States* was created by states, for states, in 1965. We track policy, translate research, provide unbiased advice and create opportunities for state policymakers to learn from one another.