Science and Literacy? The Perfect Partners in the Early Childhood Classroom
Contributed by Dr. Sarah K. Clark

When asked what literacy and science have to do with each other, you will get some interesting responses from early childhood teachers! “Everything,” says LeeAnn Parker, a kindergarten teacher who stated, “Integrating science and literacy instruction in meaningful ways has forever changed me and my teaching. Providing young learners with meaningful opportunities to build and strengthen science knowledge has resulted in stronger reading comprehension and writing.” Parker, along with kindergarten, first, and second grade teachers from Blanding and Logan, Utah, have been immersed in a year-long grant project funded by the Utah State Board of Education. Drs. Sarah Clark and Kimberly Lott (professors from the School of Teacher Education and Leadership), in collaboration with Dr. Mark Larese-Casanova from the College of Natural Resources have provided year-long training for teachers in Title I schools to demonstrate highly effective literacy and science education teaching strategies designed to help young children learn to read, comprehend, and write complex informational texts, to demonstrate science knowledge, and to meet the Next Generation Science Standards designed for young scientists. Teachers and students alike have been engaged in growing tadpoles, fast plants, mealworms, and exploring diverse habitats. Technology has played a prominent role in this project including the use of Zorbs, beakers, droppers, iPads, including Apps such as Epic! and Skitch.
A Close Up View of the SCED 4200 Classroom

Contributed by Dr. Eric S. Mohr

Some may wonder about the nature of the Level II courses in USU’s Secondary Teacher Education Program (STEP), so I would like to take this opportunity to describe one of these required courses - SCED 4200.

The purpose of the course is to examine how theories and research about language, learning, and literacy inform the teaching practices required to motivate and enable secondary students to comprehend, interpret, analyze, evaluate, integrate and use domain-specific and cross-curricular concepts.

Language

One of the fundamental ways that we address language in SCED 4200 is to address the key structures within informational text, e.g. the roles of academic vocabulary and other essential text features (paragraphing, transitions, and sequential sections of text [chunking]). The academic vocabulary expectations of secondary students today require that teachers prepare these students carefully before entering a text. By introducing the necessary vocabulary for comprehending a text, for instance, teachers can determine prior knowledge and knowledge gaps before these students even see the text. (Articles continues on next page…)

Technology plays a big part in the USU classroom. As the screen capture above illustrates, USU has the capability of recording class meetings (Using Panopto) for those registered students who may not be able to attend due to some short-term exigency.

IN THE SPOTLIGHT: NANETTE WATSON, DOCTORAL STUDENT

Nanette Watson, a first-year Literacy Education and Leadership doctoral student and pre-school teacher for Weber County School District is learning much in her first year in the program. She states, “This first year has been a great experience. I have learned so much by being immersed in readings and research, and through discussions with my professors and fellow students. It has also been interesting to learn about myself as a learner.” Nanette is currently working on an article about enhancing writing instruction for young learners with Dr. Sarah Clark and is collaborating with other Literacy and Education Leadership doctoral students on a content analysis study under the direction of Dr. Kit Mohr. The group plans to present findings at the Association of Literacy Educators & Researchers.
Literacy

In the simplest of terms, literacy refers to the reading and writing skills that all secondary students must master before entering American life as functional citizens. According to data from the 2015 National Assessment of Educational Progress, only about a third of America’s high-school graduates demonstrate themselves to be “reading proficient” or beyond. A course like this one aims to prepare teachers who are better able to address the literacy needs of all secondary learners.

Learning in the Content Areas

The principal way in which we emphasize learning in the content areas is through a researched synthesis essay in which all course participants attempt to explain how they will guide their students in the reading of, and writing about informational text to support major disciplinary concepts. I invite those who would like more information on this course to reach out to me by email (eric.mohr@usu.edu) or by phone (435-797-0828). I hope to see some of you in class soon!

Literacy Doctoral Students and Professor Publish Article on Bilingualism

Contributed by Dr. Kathleen Mohr

Literacy doctoral students, Stephanie Juth and Theresa Kohlmeier co-authored an article with TEAL Literacy faculty member, Dr. Kathleen Mohr published in the December 2016 issue of the Early Childhood Education Journal. The article, The Developing Bilingual Brain: What Parents and Teachers Should Know and Do seeks to inform adults who can encourage bilingualism among young children. The article’s abstract notes that the field of neuroscience is now providing research findings about how the bilingual brain functions that can be used to promote richer and more successful dual-language development. The article summarizes recent research, then provides practical applications for parents and teachers of emergent bilinguals. Key understandings about how the brain processes first and subsequent languages are translated in ways that enrich instruction and family-based language and literacy experiences. The publication is available online at springer.com.

“...translated in ways that enrich instruction and family-based language and literacy experiences.”

Federally Funded Grant Projects Deliver Meaningful Impact for Students and Community

Contributed by Dr. Amy Wilson-Lopez

No profession unleashes the spirit of innovation like engineering. From research to real-world applications, engineers constantly discover how to improve our lives by creating bold new solutions that connect science to life in unexpected, forward-thinking ways. Few professions turn so many ideas into so many realities. Few have such a direct and
positive effect on people’s everyday lives. We are counting on engineers and their imaginations to help us meet the needs of the 21st century.

-National Academy of Engineering, 2008

Literacy is essential to this vision of engineering. Engineers read many texts, such as their client’s statements of needs, regulations, and results from tests. Moreover, they present their ideas both visually and in writing to clients and other users.

Funded by four grants from the National Science Foundation, Dr. Amy Wilson-Lopez has studied how literacy in engineering can be used to make a difference in students’ lives and in their communities. As part of her research and community outreach, she has provided literacy-infused engineering design instruction to middle and high school students who speak English as a second language. These students used engineering to make a difference in their communities. For example, they proposed a new playground and presented it to a local city council; they proposed a new bus stop and presented it to a youth city council; they proposed a new swing for children in wheelchairs and presented it to the head of a Parks and Recreation Department; and they proposed a new parking lot design and presented it to a community council.

For another community outreach activity, Dr. Wilson-Lopez partnered with the Society for Professional Hispanic Engineers to host a Harry Potter-themed “Magic of Engineering” night attended by families throughout Cache Valley. Drawing from principles of science, these families engineered Golden Snitches and mazes for Gringott’s Vault. If you are a prospective graduate student who believes in the “magic” of literacy, science, and engineering—then Dr. Wilson-Lopez may be the right advisor for you. Her grants have provided assistantships or tuition to seven graduate-level students who are interested in supporting ALL students in succeeding at engineering, so that diverse hearts, hands, and minds can work together to help the world meet the big challenges of the 21st century.

High school students developed a swing for people in wheelchairs and shared their design with the head of a municipal Parks and Recreation Department.

Interested in a Ph.D. in Literacy Education and Leadership?

The School of Teacher Education and Leadership administers a doctoral degree (PhD) in Education specializing in Curriculum and Instruction with a Literacy Education and Leadership Concentration. This degree is designed to prepare educators who wish to become:
• curriculum specialists,
• instructors at the college or university level,
• educational researchers serving in various contexts,
• leaders in public or private school systems,
• leaders in state departments of public instruction.

The application deadline for the next distance-based Doctoral Program cohort is February 1, 2018. See http://teal.usu.edu/graduate/phd/phd-education for more information.