

Teaching Middle School Science through Drawing: Engaging the Student Who Lags Behind in Language and Literacy Development

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Overview:

In three one-day sessions (Novice, Intermediate, and Advanced), teachers will learn the art of visually organizing and communicating standards-based science content so that even struggling readers will feel included (and acquire agency) in the learning and discovery process.

Middle school science teachers often find themselves being required to teach science concepts about which they themselves lack deep content knowledge. For example, they may be life science majors with only minimal course work in the physical, Earth and space sciences. Now, **all South Carolina science teachers will be required to implement new standards, beginning in the fall of 2016.** Participants in our action research have reported that drawing helped them to turn their own weaknesses into strengths. As they gained drawing and graphic design confidence themselves, they discovered that they became less dependent on teaching through traditional verbal means (like lectures, written worksheets and lab instructions, powerpoints, etc.), all of which presumed at least grade level proficiency in language and literacy development. No particular drawing talent is required for either teachers or students.

Those students who lag behind in language and literacy development are very often from low SES families, immigrant or bilingual families, have a reading disability, or have special needs. Learning the language of science can prove particularly difficult for these disadvantaged students, if mostly verbal means are employed. The Project Draw for Science research has determined that such students achieve significant academic improvement when teachers employ drawing, visual and/or embodied explanations, and an aesthetic form of inquiry as an integral part of their planning and teaching. We welcome the participation of art, science, STEM, and STEAM programs who seek meaningful educational reform in South Carolina through their collective impact.

Cost: \$1500 per session for up to 25 teachers (includes drawing supplies, access to video tutorials, and follow-up). The Intermediate and Advanced sessions are usually booked separately after the successful novice session.