

Integrating Science and Literacy using DIIMSA Pics-Fair

Real World. Authentic. Minds-On.

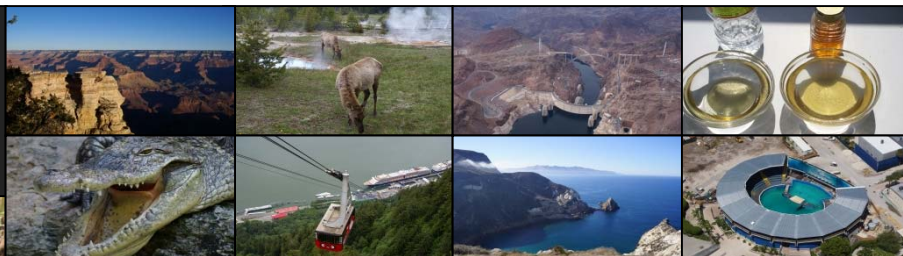
The Digital Generation Learner

In this digital age, how do we teach children who appear to know more about technology than adults do? How do we help socially or economically disadvantaged students achieve in science? How do we train and motivate teachers to integrate science and literacy into the curriculum? Educating the *Digital Generation* (students born surrounded by technology and digital media) provides great challenges for educators. Few teachers are using problem solving and inquiry to get students interested in the details of science. Even teachers with the best of skills can find themselves behind the curve in providing relevancy and competence in their instruction. Many educators consider technology a potent vehicle for transforming education, yet only a few report any confidence in integrating “true” technology into classroom instruction. DIIMSA Pics-Fair addresses these issues by providing techniques to engage, stimulate and motivate learners to want to learn topics, concepts, vocabulary and content.

What is DIIMSA Pics-Fair?

DIIMSA Pics-Fair is a topic- or concept-to-picture *Instructional Assignment* that provides a way for students to “let the camera drive the content” as they explore and research science in their own communities. The primary goal of DIIMSA Pics-Fair is to allow students to make connections to their learning in a different context by using authentic images captured by students themselves. Students will learn how to analyze and research their selected topic or concept by using a dynamically-captured digital image that directly relates to it. Using DIIMSA Pics-Fair, students will gain the ability to *conduct scientific research; define research questions; write concise and accurate summaries about their captured content; engage in peer review to exchange constructive criticism of data and interpretations; and use feedback to justify their presentations.* DIIMSA Pics-Fair provides an innovative approach for teachers and facilitators to integrate science and literacy as they guide learners to produce works that are supported with a clear, concise summary, supporting vocabulary, linked concepts and a related hypothesis. DIIMSA Pics-Fair is based on a learning technology model called DIIMSA[®] (*Digital Imagery as an Instructional Mode for Student Achievement*). DIIMSA was developed by VisualRealization.com’s educational leadership team to provide teachers with the skills and resources needed to maintain students’ interest in science and bolster their academic achievement. DIIMSA synergistically integrates *Conceptual Teaching, Collaborative Learning and Enabling Technologies* in classroom teaching that can be demonstrated as students engage in campus-based, field excursion, laboratory and case study experiences. DIIMSA was selected by the National Science Teachers Association (NSTA) Exemplary Science Program (ESP) as an exemplary science success story that shows how science teachers actually use novel teaching models during experiences (*Source: NSTA Press*).

DIIMSA Pics-Fair Guidesets are aligned to science concepts that are taught across all 50 states, and correlated to Next Generation Science Standards (NGSS) with strong linkages to State Standards. DIIMSA Pics-Fair provides an innovative approach for teachers and facilitators to integrate science and literacy as they guide learners to produce works that are supported with a clear, concise summary, supporting vocabulary, linked concepts and a related hypothesis. Guidesets are full color and categorized by grade-level for specific topics for middle and high school.



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About DIIMSA, Standards-Based and Research-Proven

Working closely with educators, DIIMSA was specifically designed to help close the achievement gap. Recognizing that tools and strategies historically used for teaching science are fairly static and have fallen short in scope, function and usability, VisualRealization.com sought to combine dynamic digital imagery technology with PBL/PBS models integrated with a comprehensive professional development offering as a powerful and unified solution.

DIIMSA was further developed, tested and implemented via pilot projects in the Houston Independent School District and a number of surrounding districts. Research-based practices that were a major part of the pilot projects included the following: (1) *Constructivist Theory perspectives that include both cognitive development within the individual learner and socio-cultural development within a community of learners;* (2) *Student application of science content to real-world situations, providing authentic learning experiences;* (3) *Technology integration to anchor student learning experiences;* and (4) *PBL-driving questions to actively engage students in exploring solutions to real-world questions while learning science concepts.* These pilot projects were initiated in 2000 after a comprehensive dialogue with teachers and administrators provided a thorough understanding of the needs of teachers and students. This dialogue determined the ultimate scope of the pilot projects, which included models, novel software incorporation, curriculum integration, professional development, technology usage, model extensions, student-centered instruction, classroom management activities and effective pedagogical strategies.

Today, DIIMSA researchers continue making science and professional development real and relevant. DIIMSA Professional Learning Community (DIIMSA-PLC) experiences are practice-based, ongoing and designed to help DIIMSA participants integrate the methods and strategies learned into the curriculum and align them with student learning goals. DIIMSA participants take collective responsibility for the learning of other participants' students. Typical responsibilities include *assisting in reviewing curriculum objectives that students are required to master; critiquing/planning effective projects, activities and lessons; observing varying classroom implementations; and critiquing student works/artifacts.*

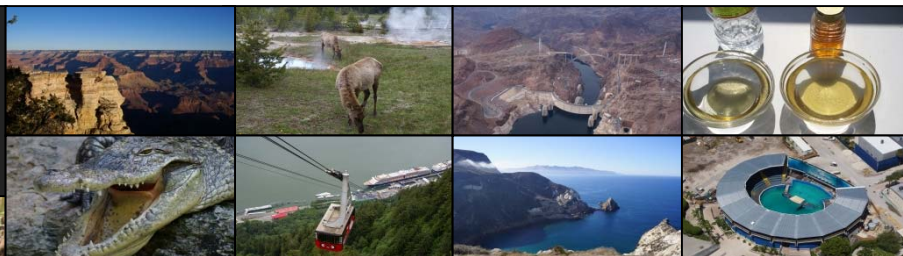
In addition to meetings and sessions, DIIMSA Participants have access to the *DIIMSA Experienced-Based Digital Imagery Content Repository (DIIMSA-EXPERT)* 24 hours a day, 365 days a year. DIIMSA-EXPERT is VisualRealization.com's unique digital content repository designed to assist DIIMSA participants as they implement activities, methods, strategies and projects. Developed by the Visualrealization.com educational leadership team, this online resource uses authentic digital imagery scenes integrated with higher-order questions, vocabulary and concepts correlated for grades 5–8 and 9–12. All DIIMSA-EXPERT content was captured and developed by DIIMSA researchers as part of the ongoing research to make STEM real and relevant.

Ongoing



“Best Practices in Integrating Visualization Technology and Pedagogical Methodologies”

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DIIMSA Pics-Fair Guidesets

Integrating Science and Literacy using DIIMSA Pics-Fair

VisualRealization.com Guidesets for Implementing DIIMSA Pics-Fair

DIIMSA Pics-Fair Guidesets are designed as How-To's with activities and examples for getting started and integrating illustrated ways into everyday teaching and lesson plans. Available in the DIIMSA Online Store.

Guidesets - Middle School

**Integrating Science and Literacy
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MS - Physical Sciences
Topic - Physical and Chemical Changes in Chemical Reactions

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A Guideset for Teachers and Facilitators to Implement
DIIMSA Pics-Fair (Middle School)

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MS - Physical Sciences
Topic - Motion and Stability, Forces and Interactions

By VisualRealization.com

A Guideset for Teachers and Facilitators to Implement
DIIMSA Pics-Fair (Middle School)

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MS - Life Sciences
Topic - Cycles of Matter and Energy Transfer in Ecosystems

By VisualRealization.com

A Guideset for Teachers and Facilitators to Implement
DIIMSA Pics-Fair (Middle School)

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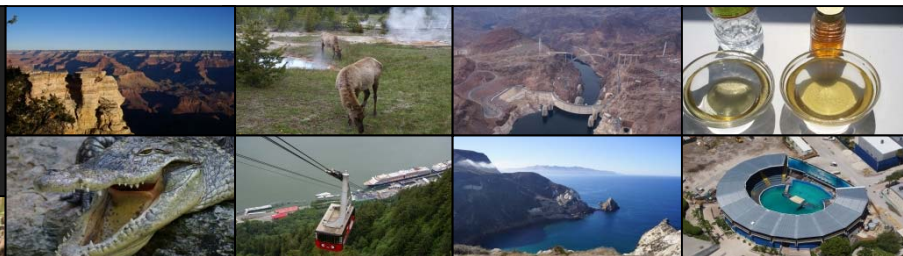
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Guidesets - High School

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Chemistry
Topic - Physical and Chemical Changes in Chemical Reactions

By VisualRealization.com

A Guideset for Teachers and Facilitators to Implement
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Biology
Topic - Cycles of Matter and Energy Transfer in Ecosystems

By VisualRealization.com

A Guideset for Teachers and Facilitators to Implement
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Physics
Topic - Motion and Stability, Forces and Interactions

By VisualRealization.com

A Guideset for Teachers and Facilitators to Implement
DIIMSA Pics-Fair (High School)

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