

The Visual Realization Program

Involvement + Experience = Understanding, Ownership and Long-Term Retention

A National Science Teachers Association (NSTA) Exemplary Science Success Story

Engaging and Teaching the Digital Generation of Learners in STEM Subjects

Summary and Background

Learning Environment

“*The sky is the limit*” is a phrase that captures the essence of the Visual Realization Program’s DIIMSA Model. Students and their teachers are revitalized and reenergized. The study of science becomes alive and the boundaries of the classroom disappear. Teachers and students work side-by-side, questioning, discovering, sharing and learning. As students are involved in projects and activities, they must use every type of knowledge and skill they have to complete associated tasks. Allowing students to communicate, observe and digitally record from their context of understanding is highly valuable to teachers as learners use instilled skills during experiences.

Reach/Target Student Population

Subscribers, Members, Cohorts and Researchers (*DIIMSA Participants*) range from teachers to university professors in STEM disciplines including pre-service teachers. The target population includes: elementary and secondary school teachers and students spanning African-American, Hispanic, Asian, Native American and Anglo groups from rural, urban and suburban school districts.

Community Partners and Liaisons

The VR Program partners and collaborates with:

- National Science Teachers Association (NSTA)
- Texas Parks and Wildlife
- National Park Service and United States Geological Survey
- University of Houston
- A.C. Green Youth Foundation
- DREME Foundation
- Lamar University
- Baylor College of Medicine Center for Educational Outreach
- The University of Houston
- SectorWare, LLC – Information Technology Solutions
- Carolina Biological
- Ward’s Scientific
- Sony

The VR program welcomes collaborations with higher education institutions, corporations and non-profit organizations that would like to do more with less, while gaining a significant impact across school boundaries.

Program Results Highlights

In addition to the less tangible, but critical outcomes of increased student enthusiasm and involvement in STEM learning, all of the VR program’s efforts yielded a surge in student achievement across the board from initial pilot projects to current program efforts. The DIIMSA model continues to evolve using science concepts and digital imagery integration into classroom teaching to engage learners in science, while linking other content areas. Through teacher professional development, the VR program prepares teachers to provide the foundational knowledge, skills and experiences students need for future educational achievement, while allowing them to become more involved in the processes of STEM. It levels the learning field for students, not by lowering standards or resources, but by raising the bar and bringing all students and teachers up to it.

Program Statistics and Highlights

980,000	Subscribers
4,000	Members
800	Cohorts and Researchers
125	Districts
1,200	Schools
908,555	Students
650	newsletters, Instructional Documents, Publications including NSTA Press
> 90% Pass rate	Impact on Grades and Standardized Tests

DIIMSA-EXPERT Site Content Summary

1,200	Higher Order Questions linked to Authentic Real World Scenes
6,900	Vocabulary Terms Linked to Authentic Real World Scenes
900	Concepts linked to Authentic Real World Scenes
3,500	Video Clips for Unique Real World Content Connections
1,983,679	Resource views
22,289	Discussions and comments

“Best Practices in Integrating Visualization Technology and Pedagogical Methodologies”