



Scope-On-A-Rope Program

Louisiana State University



<http://www.scopeonarope.lsu.edu>

The Scope-On-A-Rope Program at LSU started two decades ago with the first educational application of this technology through an EPSCoR grant from NSF. Through nearly twenty years of funding from the Howard Hughes Medical Institute, LSU's SOAR Program has positively impacted tens of thousands of teachers and students of all ages.

The Scope-On-A-Rope is a hand-held video microscope with many functions and endless applications. It can be used as a dissecting microscope, a light microscope, a document camera, demonstration device, and more! An entire class can view magnified images on a projector,



computer, or other monitor without preparing specimens—simply touch the object you want to view with the lens tip. The SOAR can be used across the curriculum in grades PreK-16, for example: to closely examine man-made and natural objects as part of a Pre-K/K science inquiry unit, to analyze soil and sand samples in an elementary earth science lesson, to view aquatic microorganisms in high school and university biology courses, in mathematics to apply measuring concepts for elementary and middle school students, and to inspire creative writing and artistic inspiration at all levels.

Program goals:

- to expand the program nationally through partnerships with other educational institutions
- to provide professional development workshops for teachers
- to make hand-held video microscopes available to educators via a statewide lending program

Program Expansion

The Scope-On-A-Rope Program at LSU is looking for collaborators to make this technology available to teachers across the country and beyond. Current program collaborators include Furman University, Central Arkansas University, and the University of Rochester Medical Center. This well-established outreach program has a long history of working with teachers, has developed numerous curricular materials tied to education standards at all grade levels, and has thousands of hours of expertise using these instruments. Through our HHMI award, we can offer potential collaborators:

- workshops for teachers in your region (we provide all materials and travel costs)
- train-the-trainer workshops for your staff and program consultation
- long-term loan of microscope(s), with the possibility of permanent ownership

Contact us for more information:

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Professional Development for Teachers

Workshops give teachers hands-on experience using the SOAR, and show them how to fully incorporate the instrument into grade-level appropriate curricula. Data from 640 evaluations indicate that while 99% of teachers felt that they gained enough experience using the SOAR during their workshops to successfully implement it on their own, 40% of these teachers were unfamiliar with this



technology prior to the workshop. This says a lot for the user-friendliness and ease-of-use of this instrument. Nearly all teachers also felt that the workshops were grade-level appropriate (99%), regardless of which grade level they taught, illustrating the wide variety of ways in which this microscope can be utilized in classrooms. An electronic survey completed by 225 teachers was recently conducted to improve the program and to better serve the changing needs of our constituents.

Scope-On-A-Rope Lending Program

Since many schools cannot obtain their own SOAR units, the lending program allows all schools an equal opportunity to use the best in educational technology. The SOAR Program has eight lending sites spread throughout Louisiana where teachers can receive training and borrow these microscopes. Of the 362 teachers who completed evaluation forms after borrowing a SOAR, 95% reported that the SOAR helped their students better understand the concepts being taught; 97% indicated that the SOAR helped students to get excited about science and to become motivated to learn. Over 92% of teachers also found that the SOAR helped them to illustrate difficult concepts and to improve their lesson activities. Nearly all of teachers who participate in the lending program are repeat users who borrow scopes every year.

LSU SOAR Program accomplishments (2003-2012):

- 170 professional development workshops have been conducted, training a total of 2,660 pre-service and in-service teachers on how to use this video microscope and how to incorporate it into their PreK-16 curriculum.
- LSU's lending network has served 1,451 teachers, reaching nearly 40,000 PreK-16 students.
- Adrienne Steele, SOAR Program Coordinator, has presented at 27 conferences including the National Science Teachers' Association, the International Society for Technology in Education, the Geological Society of America, and the National Association for Biology Teachers.
- Mrs. Steele co-authored a series of 12 Activity Guides for K-5 teachers entitled *SOAR Into Inquiry*; they are available for purchase from School Technology Resources: www.schooltr.com.

