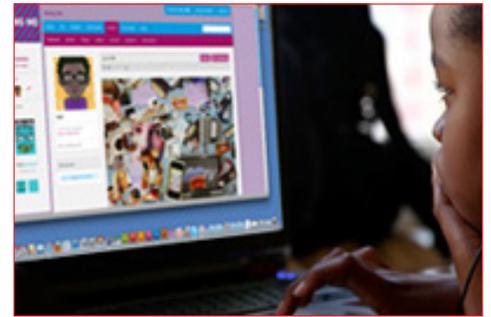


Cyberlearning is the use of new kinds of technology rich experiences to support learning and assessment.

Cyberlearning students use innovative technology to learn in new ways. For example,

High school students “see” **science concepts in action** through mixed reality technologies that augment hands-on laboratory activities with **sensor-driven computer simulations**—approximating experiences in research labs with advanced nanotechnology instruments.



With a **head-mounted display**, deaf children can **see sign language** even when their head is turned away from the signer, allowing them to “hear” explanations and see scientific phenomena at the same time.

In an **afterschool program**, youth in predominantly African American and Hispanic communities in Chicago learn computational design and programming through **designing wearable computing**.

Virtual biology labs used on about a fifth of the campuses in North America provide immediate feedback on open-ended higher order thinking skill tasks to enhance learning of the experimental process in biology.

Learn more about these and other projects at circlcenter.org/projects.



Cyberlearning research is about designing innovative technology experiences to foster and assess learning in ways that make a difference. The best cyberlearning systems are grounded in research and theories on how people learn, reflect deep content expertise, and bridge research to practice by seriously involving practitioners in the design and research, with a focus on activities for productive learning and impact in real-world settings. With these systems in place, cyberlearning can advance the science of learning and foster new kinds of experiences that transform learning and assessment.

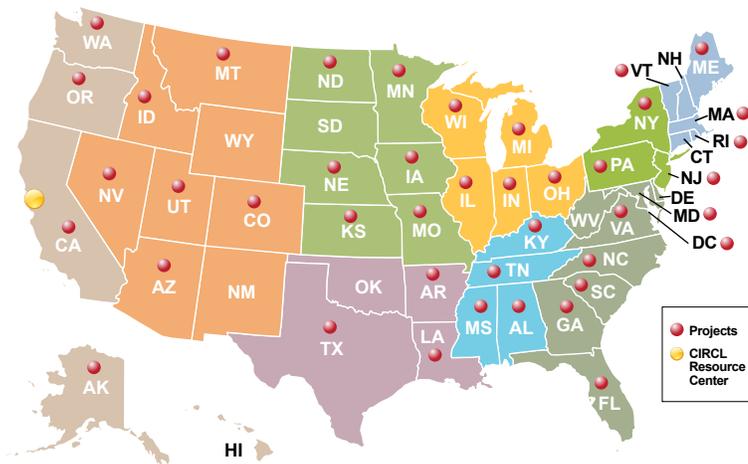
Examples of **Innovative technologies** used to support learning and assessment include:

- Mobile, wearable sensors
- Data visualization
- Modeling and simulation
- Collaborative learning environments
- Embodied, multimodal learning
- Learning analytics and adaptive learning
- Games and virtual worlds
- Intelligent tutors
- MOOCs
- Robotics
- Virtual and remote laboratories
- Augmented reality/immersive environments

The National Science Foundation's Cyberlearning and Future Learning Technologies Program

was established in 2011 to integrate opportunities offered by emerging technologies with advances in what is known about how people learn. Cyberlearning-themed projects are also funded by other programs across NSF.

Cyberlearning-themed projects funded across NSF



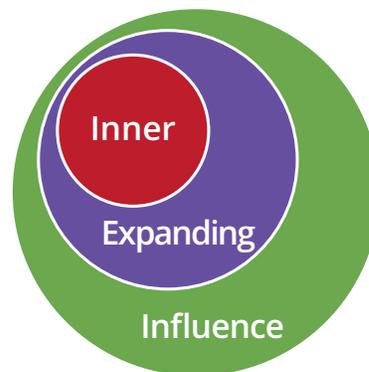
The cyberlearning experience--including **494 cyberlearning and cyberlearning-themed projects across 41 states**--helps young people learn and teachers assess learning in a variety of disciplines across formal and informal settings, including:

- Science
- Mathematics and statistics
- Engineering
- Computer and information science
- Social science

The Center for Innovative Research in Cyberlearning (CIRCL) works with

projects in the emerging field of cyberlearning to support and amplify their efforts. CIRCL is funded by the National Science Foundation and led by SRI International in partnership with EDC and NORC.

CIRCL organizes opportunities for researchers, industry leaders, and practitioners across three circles of community to identify synergies and synthesize findings, and facilitates collaborations and partnerships to accelerate progress and create broader impact together.



An **inner CIRCL** enhances the effectiveness of NSF-funded Cyberlearning investigators and projects.

An **expanding CIRCL** draws related projects from federal, philanthropic, and other NSF programs into the cyberlearning community.

A **CIRCL of influence** expands opportunities for impacts in policy, practice, and products.