

# CIRTL Network Core Ideas

Three core ideas guide our work to improve STEM teaching and learning

## CORE IDEAS

Three ideas are at the foundation of the CIRTL Network: Teaching-as-Research, Learning Community, and Learning-through-Diversity.

## TEACHING-AS-RESEARCH

The improvement of teaching and learning is a dynamic and ongoing process, just as research is in any STEM discipline. At the core of improving teaching and learning is the need to accurately determine what students have learned as a result of teaching practices. This is a research problem, to which STEM instructors can effectively apply their research skills and knowledge. In so doing, STEM instructors themselves become the agents for change in STEM teaching and learning. Teaching-as-Research involves the deliberate, systematic, and reflective use of research methods to develop and implement teaching practices that advance the learning experiences and outcomes of students and teachers.

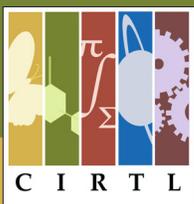
## LEARNING COMMUNITY

Learning communities bring people together for shared learning, discovery, and the generation of knowledge. Development of a learning community is fostered by shared discovery and learning where, rather than relying on traditional “expert centered” lecture formats, participants learn collaboratively and come together to achieve learning goals. Learning communities develop when the interactions among learners are meaningful, functional and necessary for the accomplishment of the “work” within the community. Learning communities flourish when implicit and explicit connections are made to experiences and activities beyond the program in which one participates. Finally, the success of learning communities rests on welcoming the diverse backgrounds and experiences of learners in such a way that they help inform the group’s collective learning.

## LEARNING-THROUGH-DIVERSITY

The CIRTL Network’s contributions to diversity in STEM are founded on the principle that excellence and diversity are necessarily intertwined. Faculty and students bring an array of experiences, backgrounds, and skills to the teaching and learning process. Effective teaching capitalizes on these rich resources to the benefit of all, which we call “Learning-through-Diversity.”

At the same time, CIRTL recognizes the reality that existing social and educational practices do not always promote equal success for all learners. Thus, creating equitable learning experiences and environments requires intentional and deliberate efforts on the part of present and future faculty. The CIRTL Network is committed to developing a national STEM faculty who model and promote the equitable and respectful teaching and learning environments necessary for the success of Learning-through-Diversity.



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