

Using TEAL or SCALE-UP Rooms

Tennessee Teaching and Learning Center

"How To" Pedagogies # 9

WHAT ARE TEAL AND SCALE UP ROOMS?

Technology Enhanced Active Learning (TEAL) and Student-Centered Active Learning Environments for Undergraduate Programs (SCALE UP) are strategies for transforming classrooms into environments that facilitate active and engaged learning for students.

The TEAL project initiated at MIT, with physics professor John Belcher, whose classroom included multiple projectors, video cameras, white boards, an instructor work station, group tables, and networked laptops. SCALE-UP classrooms allow for large classes to engage students and promote teamwork.

Similar to a [Problem-Based Learning Model](#), students sit in teams at small tables of up to nine students throughout the room. Each team or station is equipped with a computer, projection screen, and whiteboard to allow students to find, discuss, share, and explain information and ideas they have during class. The technology allows students to share information with individual students, the team, another team, or the entire class.

WHY USE TEAL CLASSROOMS?

TEAL or SCALE-UP classrooms remove students from a lecture hall format and put them in an environment where they are more comfortable interacting with peers and surrounded by technology.

Research on the effectiveness of SCALE UP and TEAL classes compared to traditional lecture classes has shown the new classes improve grades, develop communication and teamwork skills, increase registration and attendance, and reduce the drop/fail/withdraw rate (Beichner, 2008).

The "How To" pedagogy series are quick reference pages that define and describe active learning methods to increase student engagement. Each handout provides basic information and references to get you started.



HOW TO USE TEAL AND SCALE UP CLASSROOMS

Technology:

- Become comfortable with using the available technology.
- Practice using the tools in the room to simulate a possible class period.
- Arrive to class early to setup the technology and make sure it works.
- Contact OIT for technology assistance; both one-on-one training and group workshop sessions are available

Teaching and Learning:

- Identify desired learning outcomes, i.e., what should students know at the end of class?
- Design experiments and activities that help achieve these outcomes through active learning techniques.
- Try to engage the students at the higher levels of Bloom's Taxonomy of Learning Domains.
- Think carefully about the use of class time; have students do readings and homework outside of class for basic understanding.
- Group interaction is key; have groups share information, help one another, present to the class, etc.
- Move from group to group to answer questions, check progress, and analyze the quality of information obtained.
- For more on Group Work, see how-to guide by [clicking here](#).

Using TEAL or SCALE UP Rooms

Tennessee Teaching and Learning Center

"How To" Pedagogies # 9 page 2

TRANSFORM YOUR ROOM

Instructors do not have to teach in a TEAL or SCALE UP room to achieve the benefits offered by those styles. Here are some tips on creating a TEAL/ SCALE-UP model in any classroom:

- By simply rearranging the desks, a teacher can create several team stations within a traditional classroom.
- Students can bring laptops to class to find information and share with one another.
- Students can use mobile devices to respond via social media
- If white boards are not available, instructors can create engaging presentations to enhance student learning
- Instructors can choose a Problem-Based-Learning (PBL) model which takes group work one step further by having students solves problems together
- Choose from among dozens of Web 2.0 tools to improve student learning by incorporating technology in the classroom. To get started, take a look at Discovery Education's Web 2.0 Guide by [clicking here](#).
- See OIT's Instructional Support Services by viewing their page, [here](#).



Source: <http://scaleup.ncsu.edu/FAQs.html>

EXAMPLES

The possibilities in a TEAL classroom are endless, and teachers from any field teaching any subject are limited only by their own creativity. John Belcher, a physics professor at MIT and pioneer of the TEAL method, uses the classroom in this way:

"A typical [Physics] 8.01 or 8.02 class incorporates lecture, recitation, and hands-on experiments in one presentation. Instructors deliver 20-minute lectures interspersed with discussion questions, visualizations, and pencil-and-paper exercises. Students use animated simulations designed to help them visualize concepts, and carry out experiments in groups during class.

Instructors periodically ask concept questions, which students discuss and answer through an electronic polling system with handheld voting keypads. Instructors no longer lecture from a fixed location, but walk around with a wireless microphone talking to students about their work, assessing their understanding, facilitating interaction, and promoting better learning."

NEED HELP GETTING STARTED?

For additional reading and information on technology tools and TEAL and SCALE-UP classrooms, please see the following resources:

See a Complete List of UTK's Technology Enhanced Classrooms:

<https://oit.utk.edu/instructional/tools/tec/Pages/user-guides.aspx>

Discovery Education's Web 2.0 Tools:

<http://web2012.discoveryeducation.com/web20tools.cfm>

Frequently Asked Questions about SCALE-UP classrooms: <http://scaleup.ncsu.edu/FAQs.html>

MIT's TEAL Classroom Project:

<http://web.mit.edu/edtech/casestudies/teal.html>

Contact the Tenn TLC for more information by calling 974-3807 or by email at tenntlc@utk.edu Visit our site <http://tenntlc.utk.edu> for publications, our blog, and faculty development information. Will Jolly 2012