



Technology in the Classroom Series

The *Technology in the Classroom* series seeks to provide educators with classroom examples of teachers embedding 21st century technology into their teaching practice to build students' 21st century skills and mastery of Common Core content. Each video highlights a teacher using a technology in the classroom and is accompanied by a guidebook with the following sections:

- *Teacher Lesson Plan*: A detailed plan of the featured lesson
- *PD Activities*: Discussion prompts and reflection questions
- *Additional Resources*: A list of materials and resources available online from School Improvement Network, as well as other organizations

About this Segment

Mr. Jason Mood, a math teacher at South Garland High School, in Garland, Texas, implements a flipped classroom instructional model to engage his students in solving systems of equations through his use of technology in the classroom.

By the time they arrive in class, students have already watched the lesson online. Class begins with a warm-up problem where students are asked to fill in a table of values for a system of two linear equations. After going over the warm-up, Mr. Mood leads the class in graphing the system as they discuss how a solution to a system of equations represents the point of intersection. They go over one practice problem as a class, with Mr. Mood guiding the students in using their calculators to draw tables and graph systems. Students are then given the remainder of the period to work on the rest of their assignment independently as Mr. Mood moves throughout the room helping students work through trouble spots.

*This program is Issue 2184 produced by School Improvement Network.
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Technology in the Classroom: Flipped Classroom Model

Teacher Lesson Plan

Teacher: Jason Mood	Grade Level: 9
Lesson Date: January 13, 2013	Content Area: Math
School Name: South Garland High School	Location: Garland, Texas

Summary/ Overview	Students will use knowledge from prior lessons and information from the teacher video presentation (watched before coming to class) to work independently and in small groups to solve systems of linear equations using various methods.
Skill-Based Objectives & Deliverables	Students will solve systems of linear equations in two variables graphically and with tables on a calculator.
Standard(s) Addressed	<ul style="list-style-type: none"> • A-REI.6 - Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. • MP. 3 - Construct viable arguments and critique the reasoning of others. • MP. 5 - Use appropriate tools strategically.
Materials & Resources	TI-84 <i>Silver Edition</i> calculators, system of equations worksheet, whiteboard and markers, interactive whiteboard
Scaffolding the Learning	Partner work, with peer assistance. Students work at their own pace and teacher assists individuals and groups around the room throughout the activity.
Procedures	<ol style="list-style-type: none"> 1. Activator: Students fill in tables of values given two equations: y_1 and y_2. 2. Direct Instruction: Done at home the night before (teacher-made video). 3. Guided Practice: Go over one problem as a class by graphing and completing a table of values on a calculator to review principles from previous night's video, and ensure students have no outstanding questions. 4. Independent Practice: Students will complete 8 more problems on their own with the help of peers and teacher.
Formative Evaluation & Assessment	Assessment: Progress monitoring during this class period, and a short formative quiz next class period to check where students are in their understanding and mastery of the content to determine next steps for instruction.

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Pre-viewing Discussion Prompt

PD Activities/Additional Resources

- Discuss the potential benefits and challenges of using a flipped classroom model for Common Core instruction.
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Post-viewing Discussion Prompt

- What strategies from this segment can you embed into your own use of technology in your classroom?
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Reflection Questions

Following the discussion, participants can use the below questions to reflect on new learning and ideas.

1. How does a flipped classroom model lend itself to differentiated instruction?
 2. What assessment practices could you use effectively in a flipped classroom instructional model?
 3. What steps can you take in your classroom to transition from the role of a content deliverer to a facilitator of content application?
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Resources from School Improvement Network

“Tools: How to Use Technology in the Classroom.” PD 360 Video Series. School Improvement Network.
<http://www.pd360.com/index.cfm?ContentId=3040>

“The Role of the Teacher in a Technology-Infused Classroom.” This video segment is found in the *Technology Pedagogy* folder. PD 360. <http://www.pd360.com/index.cfm?ContentId=4015>

Exploring the Common Core. CC 360 program. <http://www.pd360.com/index.cfm?ContentId=5014>

Additional Resources

“Educreations.” Video lessons website. <http://www.educreations.com/>

“Khan Academy.” Video lessons website. <https://www.khanacademy.org/>

Grateful appreciation to
Garland Independent Schools
South Garland High School
Mr. Jason Mood and his 9th grade class
for sharing their experiences and expertise.