

Module Report

Slope as Rate of Change

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Course

MATH 112 (Math for Elementary Teachers) or
MATH 111 (Mathematics for Life)

Description

This module investigates slope as a rate of change using an Internet activity. It also investigates when slopes are increasing or decreasing.

Transferability

This module could transfer to any basic general studies type of math course.

Faculty Technology Skill

Faculty need to know how to access pages on the Internet.

Student Technology Skill

Students will need to know how to access pages on the Internet.

Faculty Equipment

Faculty will need a computer with Internet access.

Student Equipment

Students will need to use a computer with Internet access.

Cost

None.

Improvement on Teaching and Learning

This module provides students with a “real-world” example of what slope is. It also illustrates increasing and decreasing slope with the example. It guides students through a series of questions that are designed to give them a better understanding of slope. It allows students to see that slope is not just some formula that they learn but that it has an application to real life.

Nontechnology Comparison

Many students do not really understand slope when it is just described quickly in class and then given a formula. With practice, many students just memorize the formula and have no understanding of what it is all about. We see this when we try to give students application problems and they do not know what to use.

Pertinent Issues

The instructor needs to be sure to follow up this activity in some way to make sure that students have done it correctly. There should be some way for the students to check their answers. The instructor should incorporate this information as they complete their discussion on slopes. Why use the Internet rather than just bring the activity into class?
Answer: “When students are on a computer, they take more interest in what they are doing. If it is just brought to class, many of the students will not pay any attention to it. By doing this activity outside of class, it leaves time in class for a more in-depth discussion.”

How to Use in the Classroom

This module should be used after an introduction to slope. It should be assigned as an out-of-class activity. The instructor will need to provide the Web address:
<<http://math.rice.edu/~lanius/Algebra/stress.html>>. One way to follow up on this would be to have the students write up all of their answers to the questions and hand it in.