Robotics in the 5-12 Classroom

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Overview

- Introductions
- Why Classroom Robotics?
- Advantages of Robots in the Classroom
- Examples of Robots
- EIU: Central Illinois Classroom Robotics Consortium
- Resources
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Robots in the Classroom: Why?

- **Academics**
  Interdisciplinary: STEM and Language Arts

- **Motivational**
  Entertaining, captures imagination, immediate feedback

- **Learning**
  Hands-on, exploration

- **Technological Fluency**
  Provides a positive experience

- **Standards**
Robots in the Classroom: Student Advantages

- **Engineering** — building the robots
- **Tech / Computer Science** — programming
- **Math** — critical thinking & problem solving skills
- **Science** — data logging & analysis
- **Language Arts** — storytelling
“Flow”

According to Mihalyi Csikszentmihalyi:

- Low threshold
- Wide walls
- High ceiling

In the same experience:

- Anxiety
- Boredom
- Skills

*According to Mihalyi Csikszentmihalyi*
Examples of Robots: B9 & Robby
Examples of Robots: The Invaders (Twilight Zone)
Examples of Robots: Model Robot
Examples of Robots: Pico Cricket

Meet the PicoCricket
Plug in the parts, program, and play

Motor & Motor Board
Make the motor move.

Display
Display numbers.

Beamer
Send programs from your computer to your PicoCricket.

Resistance Sensor
How much resistance is there between the alligator clips?

Sound Sensor
How loud is the sound?

Colored Lights
Light up any color.

Sound Box
Make a melody or rhythm.

PicoCricket
Program it to control your creations.

Touch Sensor
When is the button touched?

Light Sensor
How bright is the light?

www.picocricket.com
Examples of Robots: Lego WeDo
Projects
Examples of Robots: Lego Mindstorms-NXT
EIU Classroom Robotics Consortium — Our Goals

- Provide **training** in using robots in your classroom

- Provide **robotics kits** to check out – as early as Spring 2010

- Provide a **repository** of information and lesson plans; a web site is in place

- Provide EIU **students** to help in your classroom

- Provide a place and means of sharing information and support through **(summer) symposiums**
Resources Through: www.eiu.edu/~robots

- links to other sites of interest: organizations
- links to robotic kit homepages
- academic resources
- book lists
- competitions
- girls and engineering
- contact information
Time for Some Hands-on Activity

Get Out of Your Seats

and

Check Out Some Robots!
Thank you for attending our talk... 

Keep in Touch!

Rick Anderson

Nancy Van Cleave