Kerr

Welcome to Ms. Kerr's Wiki Page!

Spring 2013

Fellows: Catherine Coughlin and Charlies Colley

[Semester Outline|TuftsSTOMP:Kerr Spring 2013]

Week	Curriculum plan	comments
Week 1	Introduction to EDP and Problem Definition	
Week 2	Research	
Week 3	Planning	
Week 4	Planning	
Week 5	Creating	
Week 6	Creating	
Week 7	Testing	
Week 8	Discussion of Testing Re-design	introduce review of project so far introduce additional ways of data collection
Week 9	Re-designing	
Week 10	Test of Re-design	Wrap-Up of EDP
final comments		This project used a service-learning problem to explore the EDP. Students identified a problem in their school- improper use of the staircase- and tried to engineer a solution for it. By testing and observing, students were able to understand the context of the problem and devise solutions that would be appropriate without written language/signs. Design interventions took a lot of time with brainstorming and building, allowing students to be hands-on with the engineering process. The testing process gave students perspective on the issues within their design. Then, during the re-design process, they knew where the trouble spots were and created new designs to accommodate the change. By the end of this semester, students were really pleased to see how methodical use of the EDP could be applied to projects beyond NXTs.

Spring 2013

Fall 2012

Week 1: Engineering design process and intro to legos

Week 2: Chair for Fern(Mr. Bear)

Week 3: Ramp Rovers

Spring 2012

Fellows: Tory Sims and Kristen Ford

Semester Outline

Activities

Week 1: Materials activity- Students made prototype of an animal statue that was at least 6 inches high and sturdy. Students were given a $100 budget to buy materials. Each material was priced differently. This added a math connection. We wanted students to have the opportunity to work with many different materials and experience the difference between these materials and legos.

Week 2: Students given the task to design and build a school for the imaginary town of Eastmoor. School had to be at least 6 inches, withstand wind test (fan test), earthquake test (shake test), and the weight test (item placed on top of the school). Students divided into groups of 3 to 4 students. They then began planning and building their prototypes.

Week 3: Students continued to build their schools. Some students had to completely rebuild because their structures did not meet requirements or simply broke. They were given 5 to 10 minutes to plan a formal presentation that highlighted 1) their building process 2) the materials they used 3) description of the school they built and 4) what they would do differently if they rebuilt it.

Week 4: Began Hatchet IEL unit. Discussed problems main character faced in the book up to chapter 6. Brainstormed as a class problems that an engineer could solve. Students had to individually write down one problem and brainstorm how they would solve it. Divide students into groups based on problems they wanted to solve. Groups included: Shelter, access to clean water, managing injuries, and finding food. Students listed materials main character, Brian, had available in the forest.

Week 5: Students planned their projects and had to get their plans approved. Students discussed what craft materials could represent materials that Brian could find in forest. Once plans approved, students began building in groups.

Week 6: Students continued building. Once building was complete, students wrote reflections on their project designs. Students then planned presentation for 5 to 10 minutes based on reflections. Finally students presented.

Fall 2011

Fellows: T^2 (Tory and Tom)

Semester Outline

Activities

- Week 1 => surveys and different kinds of engineers: Introduction to Engineering Activity
- Week 2 => engineering process and start of Build a Chair for Mr. Bear
- Week 3 => Continuing with the Build a Chair for Mr. Bear activity
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        - Biggest problem: They had difficulty building with NXT LEGO. This will improve the more they practice.
        - It was helpful to have the teacher assign the groups
- Week 4 => Finishing Build a Chair for Mr. Bear activity
- Week 5 => Introduction to building cars. We gave the kids creative freedom to create a car using NXT Legos. The car had to have sturdy structure, NXT brick, motors, and wheels and axels. The car had to follow the drop test and shake test.
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        - The kids had trouble building LEGO cars - they were trying to build "real" cars with trunks and roofs and seats and doors
- Week 6 => We had the kids all write one problem they had while building the week before on a post it note and we tried to answer all their questions. We brought in 4 pictures of NXT cars to help focus their ideas and help the kids build. The students "researched" what the different NXT cars looked like and took notes on aspects of each car they liked. Then they brainstormed ideas to redesign their cars.
- Week 7 => We started the classroom with a brief introduction to service learning. We had all of the students write down one problem in their school that could solved using engineering. Then each student presented their idea and possible solution. The problem of the stairways being too crowded came up with many of the kids. The purpose of this activity was to get an idea of a possible service learning project for next semester.
    - After the service learning presentation we finished building cars and started putting a simple forward motor program on the cars to make them move.