This project explores how computer tools can enhance engineering education. Students are challenged with a sequence of engineering tasks to design their own model houses and improve their energy efficiency, in which computer tools can be used to support scientific inquiry and engineering design. A comparison study is being conducted to test the efficacy of the computer-based intervention.

Research Context: The EEE Curriculum

Design Principle: “Knitting”
Science & Engineering in Project-Based Learning

Chapter One: Build and Test a Standard House
Chapter Two: Heat Transfer Basics *
Chapter Three: Design and Build Your Own House §
Chapter Four: Modify Your Own House

* Energy2D

“I liked watching the simulations, you could see what actually happens — you can’t see it like that in a book.” - Student

§ Energy3D

“The 3D designing was very helpful as we could customize the house as we wanted to or as we needed to.” - Student

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