

Abstract Submitted  
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**Teardowns: students' ability to identify components in actual systems** MARIA-ISABEL CARNASCIALI, University of New Haven — The typical sequence of thermo-fluids related courses within mechanical engineering programs involves a thermodynamics, a fluid dynamics, and a heat transfer course. In most instances, these are accompanied by a lab component or supplemented with a separate lab. The intent of these hands-on courses (or supplements) is to broaden exposure to physical components and systems among several other learning outcomes. Students' ability to make connections between the concepts presented in the various thermo-fluid courses and the physical parts/components with which they interact are essential to their long-term ability to function as engineers. However, these physical examples of system implementation represent but a limited view into the large variations that are currently present and in-use in industry. A study was conducted using teardowns of common household appliances to investigate students' ability to identify individual components but also intended purpose of the component within the system. Participants were asked to draft concept maps and system diagrams for a selected item; then proceeded to teardown the item. Participants included those who had and had not completed the lab component. Results provide insight to gaps in students knowledge and reinforce the need to show real systems as opposed to relying on system schematics or sketches.

Maria-Isabel Carnasciali  
University of New Haven

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