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Development of Adaptive Learning Modules for an Undergraduate Engineering Course

Within each module

- Real-world examples.
- Video connecting process to equation.
- Content pages.
- Multiple choice questions.
- Feedback for each answer.
- Multiple learning paths.

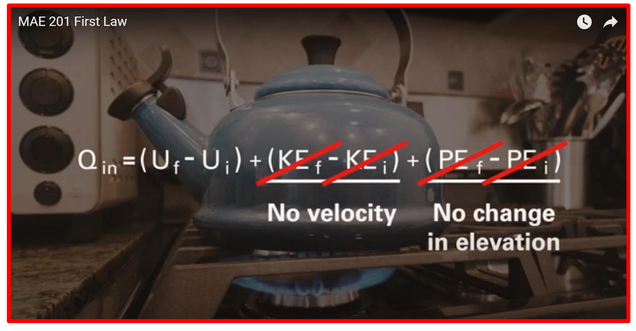
Modules developed for Thermal-Fluid Sciences course.

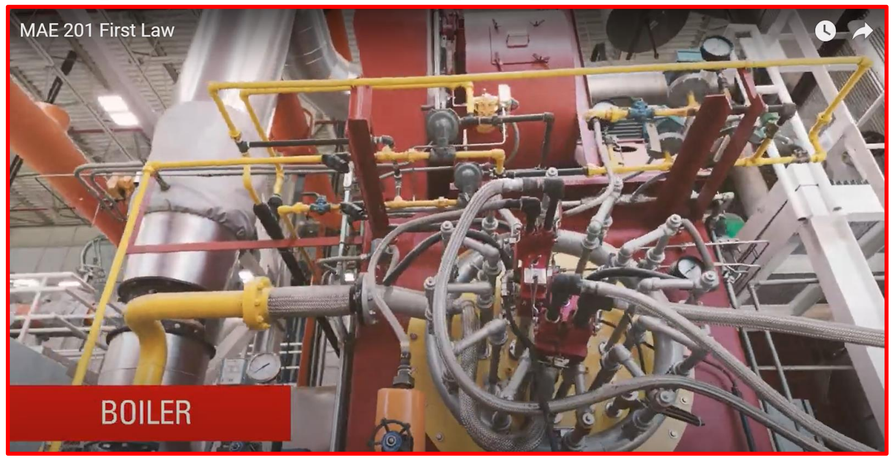
- Covered the first and second laws of thermodynamics.
- Developed within the Moodle lesson tool.
- Completed by students outside of class.

Modules first used in Fall 2024

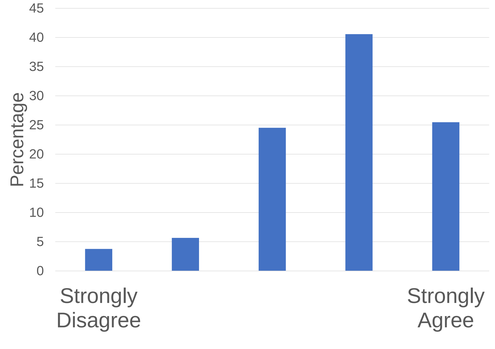
- Completion was required
- Statistics available for percentage of students who choose each answer.
- Results need to be integrated with gradebook.
- 106 survey respondents.

Each module provides real-world examples. The videos start with a kettle boiling water and then progress to a power plant's boiler on campus.

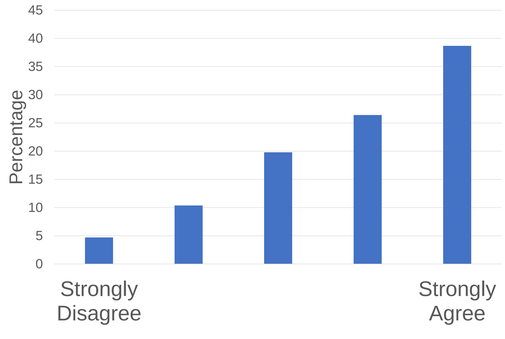




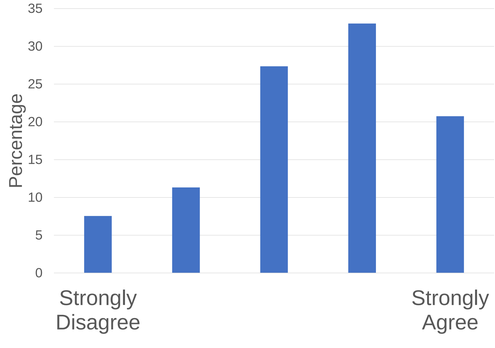
The real-life examples used in the AL modules helped me understand course concepts better.



I would like to have more concept videos available, across more topics covered in the course.



I was more successful earning a passing grade in the course because of the AL modules.



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