

## Introducing Thermodynamic Variables through Scientific Inquiry for Engineering Students

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**Abstract :** This work shows how the learning of physics is enriched with scientific inquiry practices, achieving learning that results in the use of higher-level cognitive skills. The activities, which were carried out with students of the 3rd semester of the courses of the Faculty of Sciences of the Engineering of the Austral University of Chile, focused on the understanding of the nature of the thermodynamic variables and how they relate to each other. This, through the analysis of atmospheric data obtained in the meteorological station Miraflores, located on the campus. The proposed activities consisted of the elaboration of time series, linear analysis of variables, as well as the analysis of frequencies and periods. From their results, the students reached conclusions associated with the nature of the thermodynamic variables studied and the relationships between them, to finally make public their results in a report using scientific writing standards. It is observed that introducing topics that are close to them, interesting and which affect their daily lives allows a better understanding of the subjects, which is reflected in higher levels of approval and motivation for the subject.

**Keywords :** basic sciences, inquiry-based learning, scientific inquiry, thermodynamics

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