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Improving Conceptual Understanding in Physical Science through Video Instruction. JORGE DAYER, KARLA CARMONA, SERGIO FLORES, MARIA GONZALEZ, ROY MONTALVO, LEONARDO RODRIGUEZ, The University of Texas at El Paso — The Physics Education Group from The University of Texas at El Paso has developed a hybrid instruction model to combine lab activities and a tutorial-based inquiry through the use of interactive videos. This didactical approach was designed and implemented at the physics department. Students in physical science courses were exposed to a lecture-in-lab understanding activity to construct the concept of density of solids and liquids. Students were exposed to a 30-min video of the lab activities that was available for the students throughout the entire lab session, allowing them to watch it as needed. Data was collected through a post-test, a pre-test, and a homework designed in the same context of the corresponding learning topics. These evaluation elements were administered to a treatment group and a control group. Results show that most of the treatment group students' questions related to lab procedures and conceptual content were reduced. In addition, other indicators suggest that these students developed a better understanding of the concept of density than students in the control group. Finally, we will present the corresponding learning Hake Gains of both sets of groups, treatment and control.

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