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SP - (16592) - LINKING THEORY TO PRACTICE IN INQUIRY-BASED VIRTUAL LABORATORY ACTIVITIES

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Short Abstract

This study deals with secondary school students working in a simulated virtual laboratory environment, called "Thermolab". The students were engaged in a number of inquiry activities, both "closed" and "open" type. Our interest lies in evaluating the effectiveness of labwork, by measuring students linking theory to practice during lab activities. Students worked in pairs, and data were collected after analyzing and coding students' conversations from video and audio recordings, in five different laboratory sessions. We have applied the Category Based Analysis of Videotapes (CBAV) method, according to which, the density of students' knowledge verbalization is related to specific labwork contexts, and which can be used as a measure for their linking theory to practice during labwork. Our findings showed that while working in a virtual laboratory environment, students were able to create links between theory and practice, but these were more likely to occur while working in "open" inquiry type activities, rather than "closed" type ones.