Abstract

This study focuses on the physics teachers’ views on the difficulties students have in physics that are mathematical in nature. While research in physics education attends to these difficulties, it does not attend to the teachers’ voices in identifying and handling these difficulties. Nine physics teachers, currently teaching at the high school level in the Lower Mainland of British Columbia, Canada, participated in my study. I designed two questionnaires that inquired into my participants’ perspectives on the mathematical issues their students face in their physics classes, and possible remedies to overcome the identified problems. The results echo previous research in identifying the areas of difficulty (e.g., fractions, trigonometry), and add particular examples of problems that hinder students’ success. Furthermore, the results reveal that the most common resolution to mathematical difficulties in the physics classroom is to value the understanding of mathematical processes rather than memorizing an algorithm and number crunching.

Keywords: mathematics education, physics education, mathematical applications, conceptual understanding, teacher perspective, physics curriculum