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Student ideas on Vector direction in Kinematics graphs

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Understanding graphs is a primary skill in any discipline, physics in particular. Students frequently do not know whether to extract the desired information from the slope or height of a graph. This is a pilot study to understand the interpretation of direction of a vector in a kinematics graph. We used a questionnaire consisting of three graphs to study the understanding of kinematics graphs of first-year university students in various contexts. The study was conducted on Extended Curriculum Students (ECP) and main stream students who were registered for various courses in a UoT. The students were asked to determine the direction of movement of the objects in various graphs within different contexts. The result from the study shows that the students are engaging with the shape of the graphs rather than the variables in each axis. This paper presents the outcome from three different graphs and their reasoning for their responses, and the comparison between the two groups.

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