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## Does the diagram that you draw tell its meaning?

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Schematic diagrams representing physical concepts do not necessarily define how to draw. For example, arrows are used for the various meaning in physics education. There is a possibility that the learner who saw the schematic diagrams containing arrows does interpretation different from the true intention by which they were drawn. The confusion of learners formed by the disagreement of such interpretation may be one of the reasons that making learning of physics difficult. However, such difficulties in visual communication are hard to grasp as compared to linguistic communication. For example, discrepancies in linguistic communication are grasped by the fact that the conversations do not mesh, but such a process does not exist for visual communication. Therefore, if the learner does not understand the contents, in the case of linguistic communication the teacher can repeat the explanation until the learner can understand, but in the case of visual communication the teacher cannot notice that the learner does not understand. In other words, it seems that a schematic diagram, which is a typical example of visual communication, needs to be carefully drawn to be conveyed to the learner without misunderstanding. In order to know whether the intention of the schematic diagrams is conveyed to the learner without misunderstanding, the validity of existing schematic diagrams used in Newtonian mechanics was evaluated using an eye tracking device. In addition, the relation between understanding Newtonian mechanics concept and schematic diagrams understanding was examined.

**Apply to be considered for a student award (Yes / No)?**

No

**Level for award (Hons, MSc, PhD, N/A)?**

N/A

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