

Exploring the factors affecting the direction of anemoscope for teachers and students with POE

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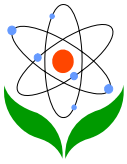
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Abstract

The purpose of this paper is to explore the application of moment that applies to the hand-made anemoscope. Participating with a science hands-on activity held by science museum, 125 and 25 samples from elementary and high students and teachers respectively have been investigated by a semi-structure open-ended working sheet to explore how deeply they know the factors that affect the direction of anemoscope. The results of pre-survey showed that: 1. 90% of students were aware of the reason of how air moves to generate wind, but 80% of students are unable to exactly explain the reason of why air moves; 2. 95% of teachers explained the air pressure is the major factor to affect air move, but meanwhile 60% of them were unable to explicate the reason of how air pressure works; 3. 85% and 30% of students and teachers respectively are not aware of how the anemoscope works with pointer and results into a misconception. Furthermore, 80% and 60% did not know that moment is the major factor affecting the pointer of anemoscope.

By using the POE teaching approach, semi-structure open-ended working sheet for learning anemoscope was applied to the science lecture of anemoscope for the students and teachers. Results are significantly shown that most of students and teachers can achieve the goal of how anemoscope works with moment and how the



wind generates with air pressure so that it can assist the learners to correct their misconception.

Keywords: Anemoscope, Moment, Science Museum, POE, Misconception

[\[Full Text in Chinese\]](#)