

What Effects Can Question Format Have on Our Ability to Assess Student Learning?

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This session presented the results of a study on the effectiveness of multiple choice versus multiple true/false question formats in uncovering student understanding and misconceptions. We know it is difficult to assess the effects of teaching modifications on student learning (Hake, 2002). This results in part because any assessment requires agreement on what the key concepts and misconceptions are (Klymkowsky et al. 2003). In addition, we feel that the format of the questions also affects our ability to assess what our students do and don't understand. To test this, we developed a set of equivalent questions in standard multiple choice format and in multiple true/false format. The multiple true/false format is also known as Type X multiple choice (Bandaranayake et al., 1999). Common student misconceptions were used as distracters. The primary difference between the two formats was that the multiple true/false format required the students to understand whether each of the distracters, on its own, was true or false. Time was provided for participants to evaluate the results of the study, to try converting some standard multiple choice questions to multiple TF format and to discuss the potential advantages and disadvantages of the multiple T/F style of questioning. More information can be found at:
<https://uwmadison.box.com/v/TFvsMultiChoice>.

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Citing This Article

Heitz, J. 2016. What Effects Can Question Format Have on Our Ability to Assess Student Learning?. Article 37 in *Tested Studies for Laboratory Teaching*, Volume 37 (K. McMahon, Editor). Proceedings of the 37th Conference of the Association for Biology Laboratory Education (ABLE). <http://www.ableweb.org/volumes/vol-37/?art=37>
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