Assessment of learning outcomes: validity and reliability of classroom tests

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ABSTRACT: Teachers in engineering routinely design and administer classroom tests to their students for decision-making purposes. To be of real value in decision-making, these tests must be valid and reliable. Test validity and reliability may be achieved by taking a systematic approach to test design. In this article, the author proposes and discusses measures that teachers could take in order to help them enhance the validity and reliability of their classroom tests, taking examples from the teaching and learning of structural design in civil engineering. A sample spreadsheet in Excel is provided that may be used by teachers to get a quick estimate of the reliability of their classroom tests.