

Validating the Critical Engineering Literacy Test (CELT) with Cognitive Interviews

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The CELT learning assessment focuses on the critical thinking skills of engineering students and allows for the improvement of information literacy, one's ability identifying and implementing important information. With the pairing of cognitive interviewing, the CELT will allow for the identification of errors and will better determine the reasoning in the decisions made by the students taking the test. The CELT test uses multiple choice and open response questions to evaluate the students and the areas where improvements need to be made. Over the course of the year, the students' information literacy skills will be expanded and then re-evaluated at the end of the year. Students who are taking the test will be paired with evaluators to explain their thought process and the steps they take to reason through their answers after they complete each of the questions. By applying the cognitive interview with the examination, the CELT test will allow the research team to identify areas of improvement for the CELT learning assessment. These areas can be identified and addressed to more properly evaluate the students and provide a test to better evaluate the knowledge and growth of the engineering students. Cognitive interviewing as part of the assessment will help add more depth and information to the research process to allow for more critical thinking application and assessment to be provided by the student.