The study intended to develop an application for classroom assessment with item analysis for Northwestern University. Specifically, it answers the following questions: 1) What are the guidelines of classroom assessment followed in Northwestern University? 2) What are the features of the developed application to improve classroom assessment? 3) What is the level of acceptability of the developed application in terms of efficiency, technical merit and system qualification?

This study employed descriptive research and system development methodology, and applying weighted means to analyse the data.

The study was conducted in Northwestern University involving the faculty members of the College of Arts and Science, and faculty members teaching engineering sciences of the College of Engineering, Architecture and Technology.

Questionnaires were used to determine which of the guidelines in classroom assessment are followed particularly in constructing the table of specification, test and test item, administering of test and item analysis. Questionnaires were also used in the validation of the developed application.

Result of the study shows that in general, the guidelines in the construction of table of specifications are always followed by the respondents: test items correspond to the topics indicated in the syllabus; respondents take into consideration the time sent to discuss the topic, as well as the number of items per topic; the majority of respondents also construct test that measures all the taxonomy of learning by Bloom.

As regards guidelines on the type of test, the result shows that the cognitive form of test is the common form being used wherein multiple-choice test is the type always used by the respondents. As to the thinking skills measured in the test, knowledge, understanding and the ability to apply the knowledge is what is always measured.
Results in the construction of test items in general are always followed by the respondents. This includes appropriateness of the level of test to the level of the examinees; guidelines in the construction of test items were generally always followed by the respondents.

Moreover, validation of the developed application shows that the web-based classroom assessment is highly satisfactory in terms of its efficiency, technical merit and system qualification.