

## **ABSTRACT**

The sole purpose of a test is to make a measurement. Assessment is very much a process of measurement, whether the outcome is used for baseline, diagnostic, formative or summative purposes. When measurement is taken, in whatever form, a score is obtained. The score that is obtained forms the important part of assessment, because this score determines the outcome of the assessment, the decisions that are to be made regarding the student's progress, curriculum changes and the evaluation of a course as a whole. Although a score is obtained from a test, the analysis thereof is frequently much neglected.

The use of computers in education is not a new concept. The first computer application goes back a long way when computers were first used to do psychological testing. It then became clear that computers can be applied to more fields in education, especially in the field of testing. In the early days real progress was slow, since computers were expensive and were only used in large companies. However, the scenario has changed with the widespread availability of personal computers that has enabled educators to focus on the appropriate role of computerisation in the development, administration, scoring and interpretation of tests.

The main objective of this study is to show the major advantage of using computers as a comprehensive assessment tool and to demonstrate the ability to construct and 'bank' test items to subsequently produce a standardised test. An added advantage was the computer's ability to administer tests to students and manage student progress records.

The research findings indicate that a Comprehensive Computer-Assisted Assessment Tool (CCAT) has the potential to contribute to the enhancement of assessment and that it can enable educators to prepare valid, reliable and fair test items which were more difficult and time-consuming without technology.