Over the past decades, university students experienced considerable difficulties in applying the knowledge of statistical concepts that they learnt in their previous courses. In this study, we work with the South African Higher Education system. In this context, many strategies were developed to redress issues of reparation and social imbalances inherited from apartheid and to reconstruct a comprehensive educational quality framework. This study proposes an analytical model to assess the knowledge of statistical procedure amongst postgraduate students in academic research environment with the new Higher Education (HE) system. The results indicate that confusion and frustration characterised the attitude of students during the selection of suitable statistical test. (Received September 20, 2016)