

Design Considerations

Article 4

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This paper addresses the issues of web-based testing, and especially the computerized adaptive version of it and asserts that web-based testing will soon be competing with and possibly replacing the paper-and-pencil tests that are now relied upon for large-scale K–12 assessment programs. This new type of testing will use the Internet to deliver tests to students in their schools. Test developers and policymakers will need to prepare for this transition by embarking on a comprehensive program of research that addresses a number of critical web-based testing issues. A system in which adaptive assessments are delivered to students at their schools over the Internet has several advantages, including decreased testing time, enhanced security, novel item types, and rapid reporting. However, before this system can be put in place, a number of issues need to be considered, such as the psychometric quality of the measures, methods for maintaining item banks, infrastructure, human capital, costs, comparability with paper-and-pencil measures across subject matter areas, and reporting strategies. This paper maintains that research is needed in all of these areas of concern and other related areas to provide the foundation for a smooth and effective transition to web-based testing. These researchers anticipate that the identification of the addressed issues of web-based assessment provides some of the broad brush strokes for framing a research agenda to investigate the validity, feasibility, and appropriateness of this form of assessment. It is recommended that a program of research be designed to address these and other related important questions to include the expertise of researchers from a wide range of disciplines, including psychometrics, psychology, sociology, information sciences, political science, and economics, as well as input from educators, test developers, and policymakers. It is critical, therefore, that we begin a program of research now, while there is still time to steer this process in a direction that will improve education and benefit students.