

Computer Adaptive Testing Mitigates Risk and Sharpens Hiring Precision

By Michael Fetzer, PhD

In 400 B.C. the first use of pre-employment assessment began in Platonic Athens where civil service candidates were required to pass physical and cognitive tests to prove their worthiness. By 202 B.C. The Han Dynasty had caught on to the practice with an application process that included one day in isolation writing essays and a poem, three three-day district exams, and a final test taken in Peking. This system, since abandoned, was still in use in the late 19th century. More than 100 years later, tremendous advancements in recruiting technology and intelligent test design have changed the way employers select candidates. Today, tools continue to be fine tuned giving employers the ability to more precisely match candidates with jobs.

The Progression of Test Design

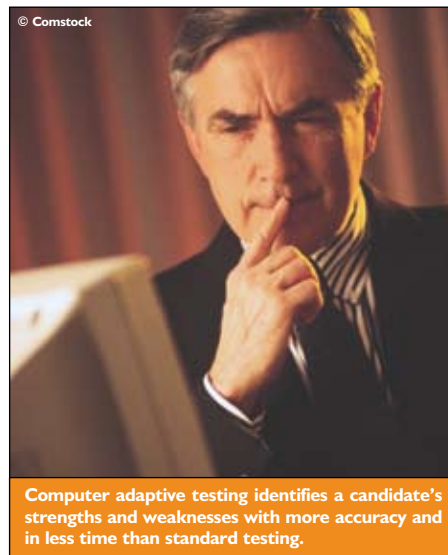
The evolution of employment testing has experienced several great leaps. First, the administrative burden of hand-scored tests was alleviated with the advent of “bubble sheets” and optical scanners that allowed organizations to quickly and accurately score hundreds of tests in only minutes. Next, paper-and-pencil tests were “computerized,” allowing for instantaneous results for test administrators.

In the mid-80s, as the use of the personal computer expanded to the mainstream, an applicant’s knowledge of software applications became critical to hiring decisions. Qwiz, an innovator in employment testing, launched computerized assessments that could measure specific application skills without requiring the test administrator to know the application or install and maintain costly software.

In the 1990s, with the proliferation of the Internet and related technologies, Qwiz made it possible for employers to administer applicant skills tests more consistently across locations and apply more advanced technology, such as simulations and situational judgment scenarios. Internet-based testing also provided

opportunity for applicants to test remotely.

In early 2007, PreVisor (the union of Qwiz, ePredix, PDRI and Brainbench) will continue this tradition of innovation by introducing the next major step forward in pre-employment screening and selection, computer adaptive testing (CAT).



Refined Hiring

This adaptive testing method modifies the test based on the individual’s skill level, so that it can identify strengths and deficiencies with more accuracy and in less time than standard testing. Based on the candidate’s response to each test item, PreVisor identifies and presents subsequent items that most closely match the applicant’s ability level. For example, if the applicant answers an item correctly, the system will administer a more difficult item. Conversely, if the applicant gets an item wrong, they will then be presented with an easier item. This process continues until an accurate evaluation of the applicant’s ability level is reached. Compared to traditional methods that include easy, challenging and difficult questions, adaptive testing “zeros in” on ability with greater precision, helping employers make finer distinctions between applicants.

Advanced Security

In addition to precision, PreVisor’s adaptive testing enhances test security by mitigating cheating risk, which is particularly valuable with the expanding use of remote testing. Because the test tailors to an individual’s skill level, it is highly unlikely that any two candidates will receive the exact same set of questions. The variation of content reduces the opportunity for sharing questions and allows for easy replacement of over-exposed or outdated test items.

Better Applicant Experience

Employers are not the only beneficiaries of adaptive employee testing. Adaptive testing requires less time than traditional methods since the process allows the system to evaluate an applicant’s ability using a smaller number of items matched to competence level. This focused methodology creates less fatigue and results in fewer applicant “drop outs.” Another benefit, candidates are less likely to experience boredom or test anxiety since questions are neither too easy nor too difficult. In turn, this positive applicant experience reflects well on the employer.

With the significant technical advancements made in the automation of skills testing over the past few decades, employers can now assess a greater number of applicants more efficiently and in less time than ever before. PreVisor’s computer adaptive testing represents the next stage in the evolution of applicant skills testing, drawing upon the latest developments in technology and analytics, maximizing predictive accuracy, enhancing security and providing a more engaging test experience overall for applicants ■

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