

Table of Key Measures for Reliable and Valid Assessments

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Introduction

When you use assessment results to make decisions about people – whether that's to hire or fire them, promote or certify them – you need access to defensible metrics.

You're investing a lot of time and money into building your assessment programs, so it's incredibly important to understand whether things are performing as expected. Are they paying off? Are they measuring the right knowledge and skills or are you testing the wrong learning objectives?

Every learning and measurement professional should care about assessment reliability and validity. A great motto from testing guru Bill Coscarelli is "you don't get what you want, you get what you test." It's therefore crucial to identify whether what you're testing is in fact reliable and valid.

Reliable assessments measure the same thing consistently and reproducibly. An unreliable assessment does not measure anything consistently and cannot be used for any trustable measure of competency. Being reliable is not good enough on its own.

A test can be reliable but not measure what it is meant to measure. An assessment is valid if it accurately measures the set learning objective. Trustworthy defensible assessment programs must be reliable AND valid. So how do you get there?

For assessments to be reliable and valid, it is necessary to follow structured processes at each step of assessment development. This table breaks up the key areas of assessment development and highlights key measures you should be using if you want defensible assessment results.



Planning the Assessment

Measure to Aid Reliability and Validity	Questionmark	Your System
Use job task analysis surveys to help blueprint assessments	Yes	
Organize items in an item bank with topic structure	Yes	
Metatag items to associate with task knowledge, skill or ability	Yes	
Secure authoring processes to protect against content theft	Yes	
Manage translations to aid multilingual assessments	Yes	

Authoring Items

Measure to Aid Reliability and Validity	Questionmark	Your System
Authoring tool subject matter experts can use directly	Yes	
20+ question types	Yes	
Ability to use relevant stimulus including video, audio and equations	Yes	
Use observational assessments to help measure performance	Yes	
Item version history for legal defensibility	Yes	
Easy collaboration for item reviewers to help make items more valid	Yes	
Search questions to identify those that need updates	Yes	
Retire questions that are no longer useful	Yes	



Assembling the Assessment

Measure to Aid Reliability and Validity	Questionmark	Your System
Rules-based or random selection of questions from item bank	Yes	
Random ordering of questions and choices	Yes	
Set a pass score including topic prerequisites	Yes	
Topic scoring and feedback	Yes	
Set assessment time limit (and override if required)	Yes	

Pilot and Review

Measure to Aid Reliability and Validity	Questionmark	Your System
Easily deliver assessments for trial purposes	Yes	
Participants can comment on questions and provide feedback to improve validity	Yes	
Use experimental questions in live assessments without impacting scores	Yes	
Run useful reports on the results of trial assessments	Yes	

Delivery

Measure to Aid Reliability and Validity	Questionmark	Your System
Consumer-quality participant user interface	Yes	
Blended delivery with mobile support and printing and scanning	Yes	
Accessible to employees with disabilities	Yes	
Results saved on the server "as you go" so IT failures do not lose data	Yes	

Delivery



Measure to Aid Reliability and Validity	Questionmark	Your System
Option to present different questions on a retake	Yes	
Forced time period before a retake	Yes	
Option to require monitor to confirm participant identity	Yes	
Secure browser to provide exam integrity	Yes	
Launch and track assessments from other systems of record	Yes	

Analyze results

Measure to Aid Reliability and Validity	Questionmark	Your System
Accurate, robust and tamper-proof	Yes	
Differential security for results so only the right people see them	Yes	
Item analysis report to weed out poor items	Yes	
Test analysis report to calculate reliability	Yes	
Wide range of accurate reports to help professionals make good decisions	Yes	
Results can be anonymous to help make employee surveys valid	Yes	
"Big data" potential to make better business decisions	Yes	



Appendix

Questionmark Resources

Best practice guidance from Questionmark

Questionmark publishes several other white papers giving best practice guidance, available from questionmark.com/resources/reports/. The following white papers are useful for follow-up reading:

- [Assessment Results You Can Trust](#)
- [Five Practical Approaches to Test Beyond Recall](#)
- [The Test Fraud Fallacy](#)

Upcoming Webinars

[Register today](#) for one of our upcoming sessions.

From best-practice training to deep-diving into assessment themes, our webinars are a chance to deepen your understanding, and learn some helpful tips along the way. To join one of our upcoming sessions, [visit questionmark.com/resources/webinars/](https://questionmark.com/resources/webinars/).

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Solutions and Integration

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About Questionmark

Questionmark is a leading assessment platform that helps businesses, governments and academic organizations test and prove knowledge. We enable organizations to author, deliver and measure assessments, in the cloud, with all the flexible tools they need from proctoring to translations.

For over 30 years our business has paved the way for more effective testing and certification worldwide. To date, we've been trusted by more than 2,500 customers worldwide and deliver more than 18 million assessments a year.

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