

ENHANCING TEST DEVELOPMENT
THROUGH DIGITAL TECHNOLOGY:
BLENDED AND DISTRIBUTED MODES
OF VALIDATION

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Moving Online

- ⦿ Communication
- ⦿ Transfer of documents and materials
- ⦿ Research
- ⦿ Meetings and collaboration
- ⦿ Test administration
- ⦿ What about the test development process?

Mode options

- Face to face
- Virtual
- Hybrid meeting

General Advantages

- ⦿ Include anyone, minimize exclusions due to
 - Travel availability
 - Location/Travel costs
- ⦿ Cost savings
- ⦿ Time savings
 - For participants
 - For the test development process

General Disadvantages

- ⦿ More challenging facilitation
 - Engagement
 - Assessing understanding
 - Communicating concepts
 - Technology
- ⦿ Minimal interaction time among subject matter experts
- ⦿ Potential lack of focus/attention
- ⦿ Potential security issues
- ⦿ Limited by comfort with technology and technology resources

Conducting a virtual test development meeting

- Focus on a single task or task component
- Limit group size to ensure appropriate participation
- Monitor engagement of all participants
- Focus on efficiency
- Keep meeting time reasonable, allow for breaks

Conditions for success

- ① Subject Matter Experts
 - Homogenous group
 - Continuous group or partially continuous group
- ① Shared understanding of the concept or context of the test.
- ① Facilitator and subject matter experts are familiar and comfortable using technology that is required.

Blended Test Development Process

- ⦿ Some in-person and some distributed (virtual) meetings
- ⦿ Select components to conduct in-person
 - Stakes
 - Timing
 - Challenge of concept or task

Example Blended Model

- Test Design – In person
- Content Specification – In person
- Blueprint finalization – Virtual
- Content Development
 - Training & preliminary item writing – in person
 - Continued item writing – virtual
 - Item review – virtual
 - Review of pilot test results – virtual
- Standard Setting – In person

Virtual Item Writing & Review

- ① SMEs are provided guidelines, content assignments, and access to online tool.
- ① Items are entered into online tool and edited by test development staff.
- ① Progress is monitored against pre-set timeline and reminders are sent as necessary.
- ① Virtual meetings are held intermittently to review new content – edits are made live directly into online tool which can be viewed through online meeting software.

Virtual Post-Pilot Item Review: Example

Objective: Solve word problems involving subtraction of small whole numbers.

Two sparrows and three chipmunks are resting in a sequoia. One chipmunk runs down the sequoia and hides in a shrub.

How many mammals are left in the tree?

- a) 1
- b) 2
- c) 4
- d) 5

P-value = .15

Item-score correlation = -.05

Response	P-value	0-25%	25-49%	50-74%	75-100%
A	.20	.02	.10	.03	.05
B*	.15	.07	.06	.03	0
C	.50	.03	.07	.15	.25
D	.15	.01	.07	.04	.03

Summary

- ① The advantages of virtual test development warrant consideration as a possible mode.
- ② Particular aspects of test development can be successfully completed virtually with the right consideration and preparation.
- ③ Careful process monitoring and evaluation can help ensure subject matter expert understanding and participation.

Questions?

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