aimeQED

WHAT IS MEASUREMENT DECISION THEORY?

aimeQED uses Measurement Decision Theory (MDT) to estimate the probability that participants are keeping their knowledge current based on their pattern of responses to questions. MDT represents an innovative and transparent way for organizations to continuously evaluate and inform participants on how they are performing.

HOW MDT WORKS

Using MDT to summarize performance on a longitudinal assessment is different than scoring a traditional exam. MDT is an alternative approach for determining if individual participants are meeting your organization's performance standard.

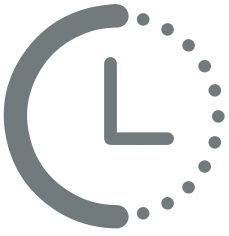
Using each participant's pattern of responses, the MDT algorithm calculates the probability that they belong to one of two groups – those who are keeping their knowledge up-to-date or those who are not.



As participants answer questions, the MDT algorithm will use their pattern of correct and incorrect answers to continually recalculate the probability that their knowledge is up-to-date.



Initially, all participants are assumed to be keeping their knowledge up-to-date.



Over time, the probability that a participant is keeping their knowledge current may fall below the performance standard set by the organization. In this case, they are reclassified as not keeping their knowledge up-to-date.

THE SCIENCE BEHIND MDT

Each organization specifies its initial level of confidence that participant's knowledge is current; typically, the starting probability value, or p-value, is high, around 0.97 or 97% confident that the participant is up-to-date.

With each question answered, the MDT algorithm recalculates this confidence level using the accuracy of the participant's answers to the questions they received and the difficulty of those questions.

Each organization also specifies the probability threshold below which it will consider a participant not to be keeping their knowledge sufficiently up-to-date.

FOR EXAMPLE

An MDT p-value of 0.10 means that, based on the participant's responses, there is a 10% probability that the participant is keeping their knowledge sufficiently current.

WHAT MAKES USING MDT DISTINCT

MDT provides a probability, not a score.

Participants know their percent correct score and how it compares with peers, but the percent correct is not used to directly calculate the probability they are up-to-date.

MDT does not grade on the curve.

With MDT, everyone can remain up-to-date. Based on learning science research, utilizing longitudinal assessment helps individuals learn and meet the standard.

MDT can be used to reward learning and recall.

If a participant answers a question incorrectly, they may see that question a second time or a similar one and get credit for answering it correctly the second time around.

MDT accounts for the fact that aimeQED's experience is personalized.

Participants benefit from customized questions that focus on the content knowledge they need to remain current in their practice area.

MDT accounts for the difficulty of each question.

When many participants respond incorrectly to a question, MDT takes the difficulty of that question into account when calculating the participant's p-value.