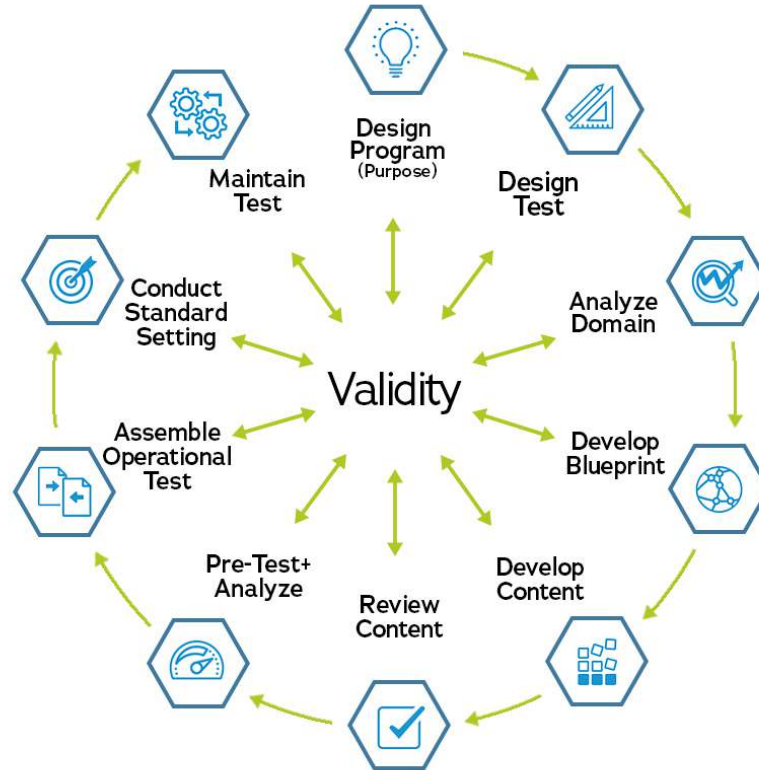


Program and Test Design

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Test Design Process



Terminology for this presentation



» Credential

- An attestation of a qualification, competence, or authority issued to an individual by a third party with a relevant or de facto authority or assumed competence to do so.
- Certification, license, assessment-based certificate, certificate

» Representation of a credential

- How the credential or attestation is represented

» KSA/Cs

- Knowledge, Skills, and Abilities/Competencies

What is Program Design?



- » An outline of:
 - The credentialing program
 - How different exams/roles within a content area are related
 - How different content area tracks are related
 - The stakeholder(s) for each area and why the credential is important to each

- » With the following benefits:
 - A road-map for the credentialing program
 - Helps to ensure that overlap and/or omissions are intentional
 - Allows for a clear direction for the program AND each exam
 - Shows candidates how they may progress through the program

What are the purposes and goals of the program?



- » What are the intended uses and meanings of the credentials at each level and how does each contribute to achieving the goals of the program?
- » How will credentials that require validation of KSA/Cs such as certifications and assessment-based certificates relate to credentials that do NOT require validation of KSA/Cs such as certificates of completion and/or participation?

What is the relationship across/between credentials?



- » What are the intended uses and meanings of credentials that REQUIRE validation of KSA/C?
- » What are the intended uses and meanings of credentials that do NOT require validation of KSA/C?
- » How will the difference in the credentials and their meanings be communicated to stakeholders?
- » How does each contribute to achieving the goals of the program?
- » What will specific credentials be called?
 - Certifications, assessment-based certificates, completion, participation
- » How will each type of credential be represented?
 - Badges, pdf certificates, hard-copy certificates

Who are the stakeholders in the program?



- » Who is the program sponsor?
 - Budget authority; determines what will be offered; final say for decisions
- » Who will utilize the services of the credentialed population?
 - Differences between credentials that validate KSA/Cs versus those signifying course completion/participation.
- » Who will be interested in earning the credentials?
- » Why would each stakeholder group buy-into the program?
 - What are the value propositions for each group
- » What are the potential negative consequences if the program did not exist?

Defining Credentials, Levels, and Tracks



- » The type of credential offered should reflect the requirement for achieving the credential.
 - A certificate of completion for a training course
 - An exam to validate KSA/Cs
- » Levels are frequently considered with job roles as candidates gain experience and expertise they “level-up” in the field, moving for example from Entry level → Associate → Expert
- » Tracks are frequently considered with content areas where different content within a program would be in different tracks and each track would likely have levels within it.

Example Levels



Example Tracks

- » Not all tracks may have the same credentials or the same levels. This needs to be defined with the program design.
- » Example Medical Tracks:
 - General Surgery
 - Hand Surgery
 - Surgical Critical Care
 - Vascular Surgery
 - Orthopedics
 - Orthopedic Sports Medicine
 - Orthopedic Surgery
 - Adult Reconstructive Orthopedics
 - Hand Surgery

What are the requirements for a credential?



- » At each level of the program what are the final requirements that will lead to each credential?
 - Fees, eligibilities, pre-requisites, exams, other?

- » What are the domains/job roles of interest?

- » What are the criteria to determine if a credential will be developed and at what level it should be developed?

What are the requirements to maintain a credential?



- » Do candidates need to demonstrate sustained competence?
 - If no, why not?
 - If yes, how?
 - How is sustained competence demonstrated?
 - What sources of data/evidence exist to demonstrate competence?
 - Exams
 - Continuing education
 - On-the-job data
 - How much is required?
 - How often will it be required?

How are domains differentiated?



- » In terms of Knowledge, Skills, and Abilities/Competencies how are domains differentiated?
 - Within each level what is common, if anything, across all domains?
 - If there are commonalities, how are those addressed within the exam structure?
 - Within a track how will fundamental, as opposed to specialized KSA/Cs, be represented/covered?

Example Medical Domain Differentiation (Specialties, Sub-Specialties, and Sub-Sub-Specialties)



- » General Surgery
 - **Hand Surgery**
 - Surgical Critical Care
 - Vascular Surgery
- » Plastic Surgery
 - Infectious Disease
 - **Hand Surgery**
- » Orthopedics
 - Orthopedic Sports Medicine
 - Orthopedic Surgery
 - Adult Reconstructive Orthopedics
 - **Hand Surgery**

What are the specifications for different tracks and levels?



- » How will fairness, or parallel rigor, be established within and across each level and/or track?
- » Will there be general test specifications within each level/track? Or will specifications vary across exams within a level/track?
 - Test time
 - Test length (total points/items)
 - Target ranges for acceptable levels of cognitive complexity
 - Definition of “sufficient” reliability
 - Delivery modes
 - Exam types
 - Item types
- » What is the re-take policy for failing candidates?
 - Does this vary by level/track?

How does the program improve over time?



- » What are the plans for increasing:
 - The speed and efficiency of exam development?
 - Leveraging data rather than SME time
 - Validation processes?
 - Confirmatory blueprint survey rather than SME discussion

- » What is the tolerance for decision error within each level?
 - Passing candidates who do NOT meet the stated minimum expectations?
 - Failing candidates who DO meet the stated minimum expectations?

How do the exams improve over time?



- » What are the plans and process for the timing of exam maintenance and content refreshes?
- » How are exams in need of maintenance and/or revisions outside of any scheduled maintenance cycles identified?

Who is going to compromise the program?



- » Compromise = Cheating, gaining an unfair advantage, having access to exposed content (intentional or unintentional)
- » How might organizations, training partners, SMEs, vendors, and/or candidates compromise the program and why?
- » How is the program going to:
 - Establish security policies
 - Prevent compromise
 - Detect compromise
 - Enforce security policies
- » Will/should any of this differ by level, track, or credential?

If this is a redesign of a program...



- » How and/or will you map current credentials to the new/revised program?
 - How will currently credentialed candidates be handled?
 - Grandfathering, reduced cost for new testing within a window, etc.
 - How will in-process candidates be handled?
 - Will there be a hold on all testing for X time period?
 - Will both programs be running in tandem, if so, for how long?
 - What are the considerations for equivalent levels of rigor at each level/track during the transition?

Other program design considerations



- » Desired time to launch: policy, marketing, branding, etc.
- » SME resources: availability (time and number eligible), budget, etc.
- » Anticipated candidate volumes
- » Budget
- » Exam delivery: does the delivery method/provider align with exam/item type desires for each level?
- » Credential management
- » Psychometric analysis
- » Process automation

Test Design

- » Test Design leverages program design materials to determine the specifications for a particular track/level and credential.
 - Candidate population
 - Exam/item types, delivery options, exam duration, etc.
 - Definition of the Minimally Qualified Candidate
 - The candidate who will just pass the exam and earn the credential
- » Benefits
 - Streamlining test development process elements with clear requirements and specifications for each exam title

Important Elements of Test Design Documentation



- » Program Summary
- » Exam Summary
- » Description of the Minimally Qualified Candidate
- » Program/Exam audience
- » Credential requirements
- » Exam domain definition
- » Intended interpretation and use of scores
- » Eligibility requirements
- » Functional specifications

Questions

