

The Proof's in the Performance

 When to Consider a Hands-on Approach to Skills Validation



| Speakers



Brian McNamara

- Product Manager for Customer Engagement at Questionmark
- 25 years of experience working with technology and content providers serving the needs of training, education and assessment professionals.



Ben Watson

- General Manager at Skillable
- Oversees the global strategy for Skillable Challenges, Professional Services and Marketing
- Served as Chief Strategy Officer and Chief Revenue Officer, where he managed the Product, Marketing, Sales, Services and Customer Success teams.

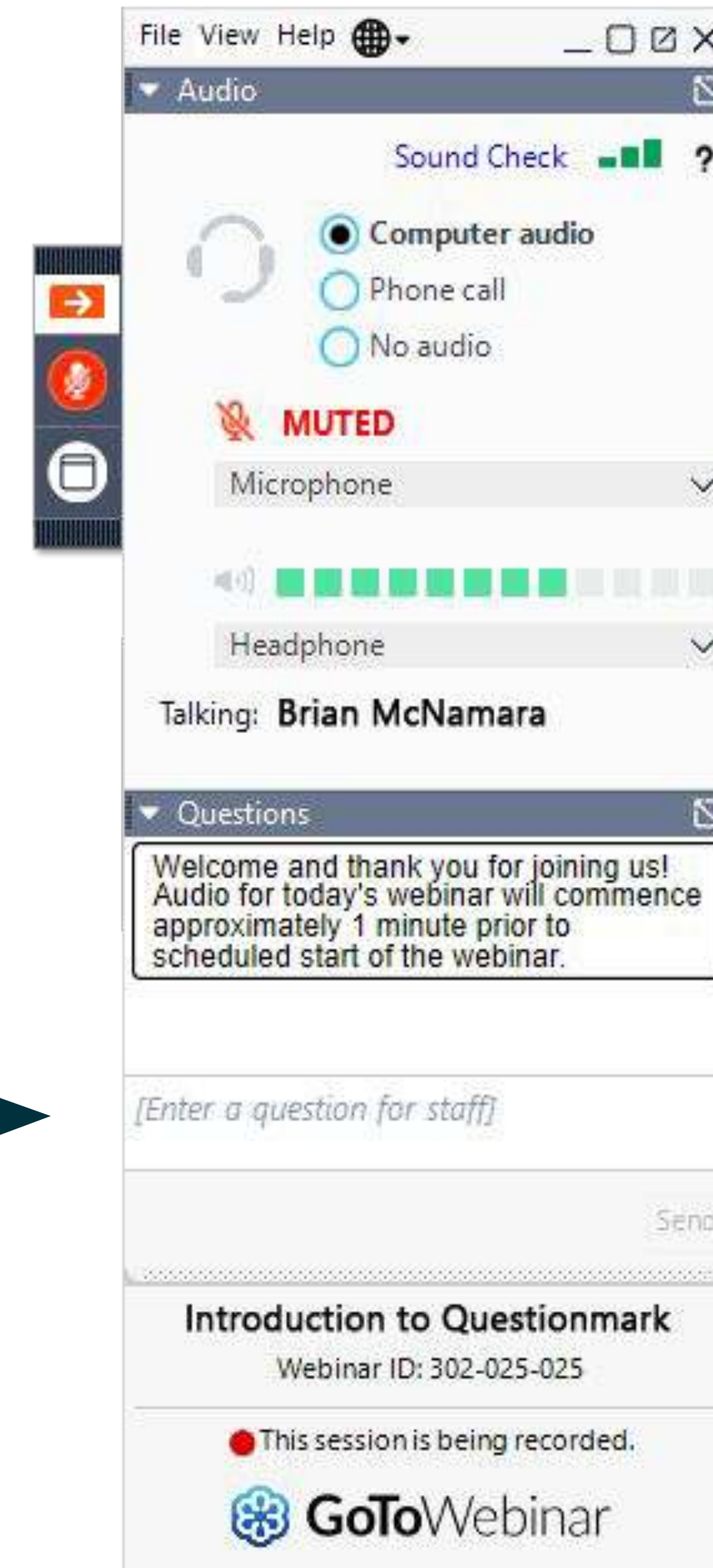


Before we get started...

Watch for an email after the webinar to:

- Download slides (PDF)
- View a recording

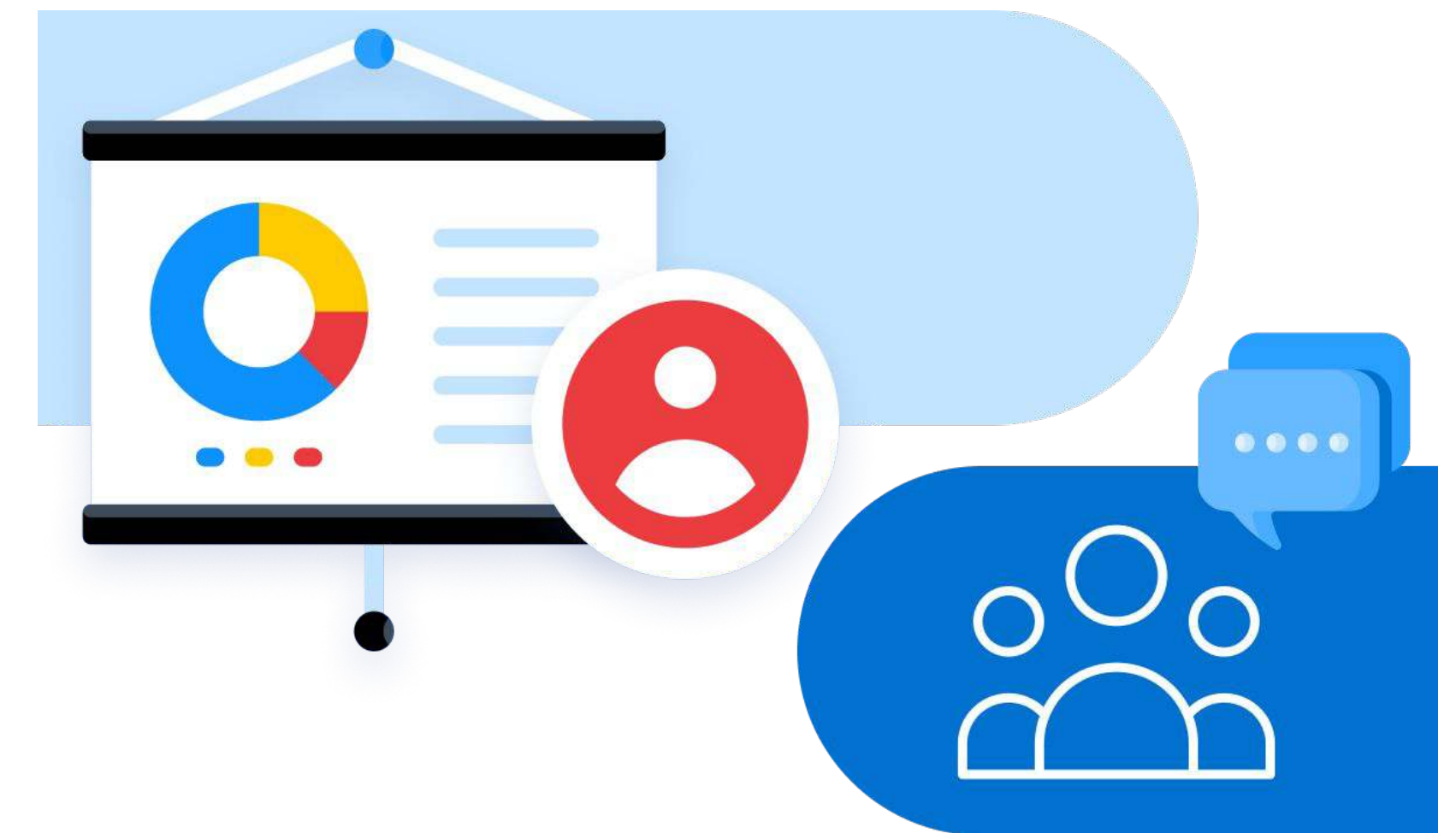
To ask questions, use
the “Questions” feature



Agenda

During this session, we will cover:

- Review: Testing Knowledge vs "Above Knowledge"
- What are virtual labs and how do they work?
- How Skillable virtual labs can be scheduled and launched from Questionmark
- Best practices for developing and scaling hands-on virtual lab environments
- Types of programs that can benefit from virtual labs
- Q&A



About Questionmark

- Helping measure knowledge, skills and abilities securely
 - Assessment platform
 - Proctoring solutions
 - Assessment content
- ISO/IEC 27001 Certified
- Founded in 1988
- Part of the Learnosity Group



Microsoft Partner
Gold Independent Software Vendor (ISV)



Crown
Commercial
Service
Supplier



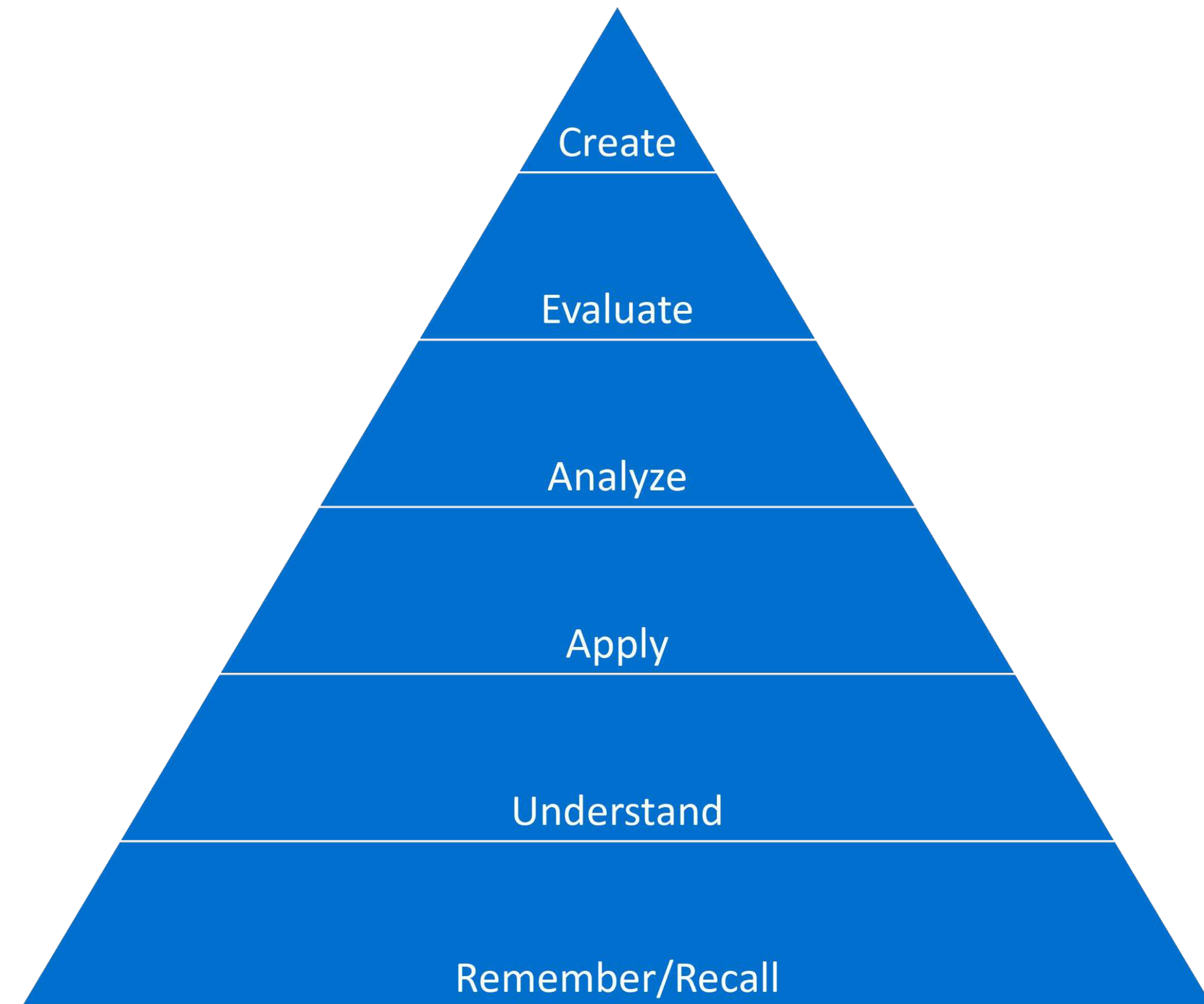
Who is Skillable?

- Validated skills development is our core.
- Six-time Virtual Lab Leader on G2.com (see that and other industry kudos at skillable.com/trophy-case)
- Four-time Inc. 5000 company
- Also ISO/IEC 27001 Certified (only .01% of companies in the world are - you're talking to 2 of them today!)
- Performance Testing (PBT) leader since 2007
- Pioneer in challenge-centric learning
- Trusted by Questionmark, Microsoft, AWS, IBM, Intel, Oracle, CompTIA, EC Council, Skillsoft and more!

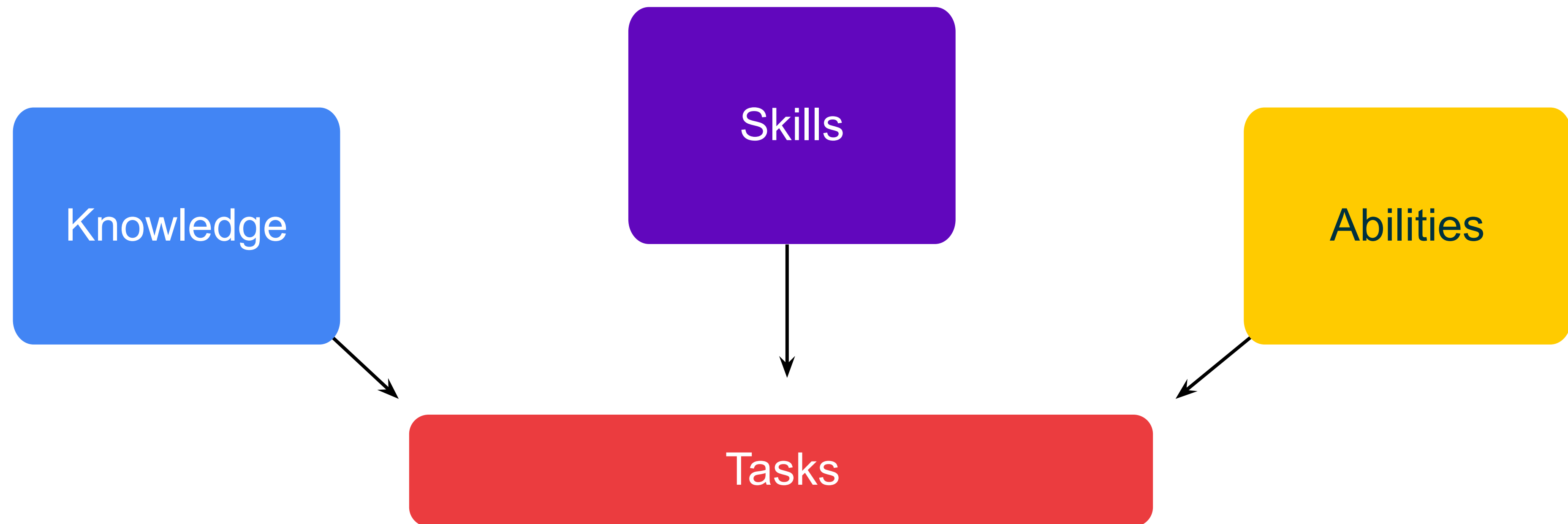


| Recall only small part of job requirements

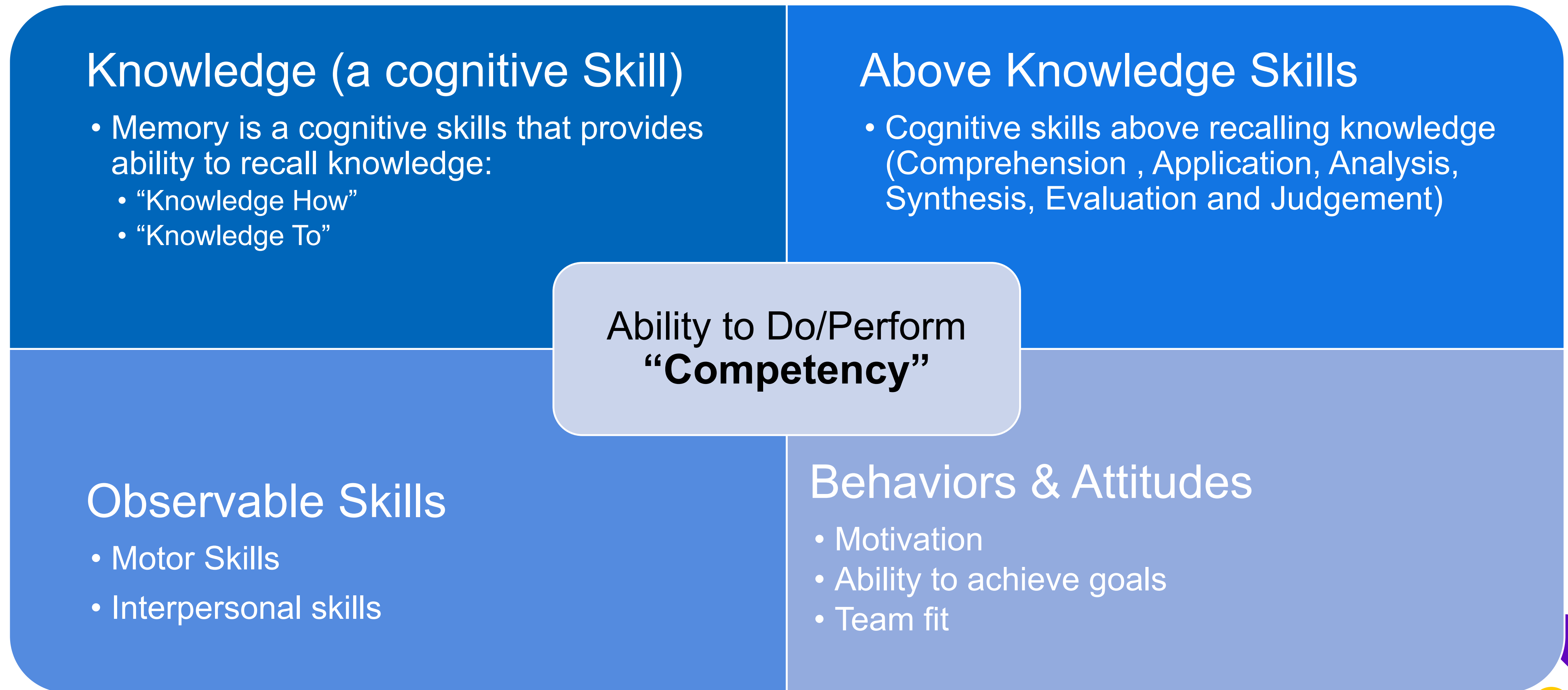
- Bloom's taxonomy describes cognitive skills in levels
- Most real-world jobs require many levels of taxonomy



About Competencies and performing tasks

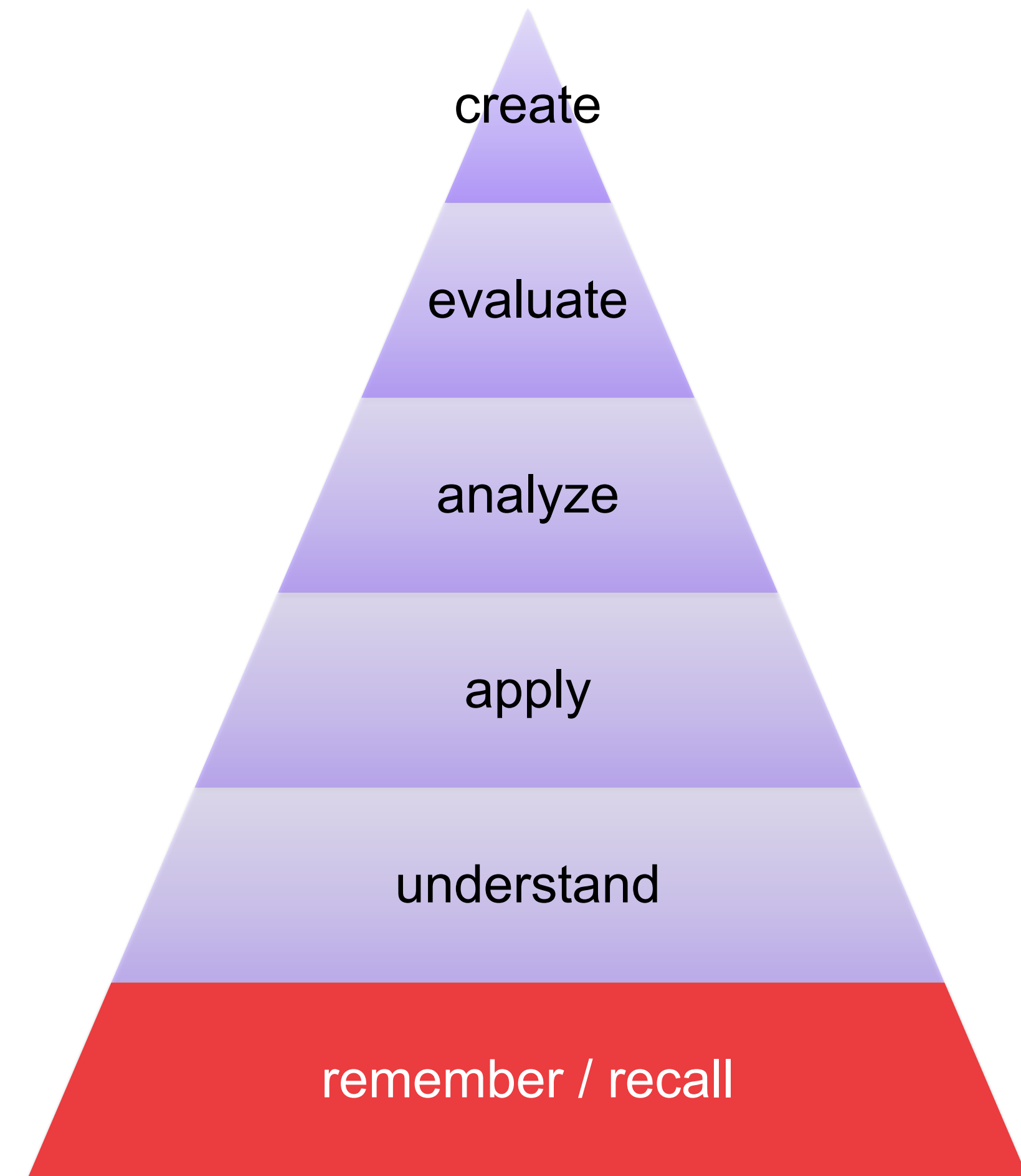


Measuring KSAs – the big picture



Recall only small part of job requirements

- If your assessments focus only on recall, they might not test job competence



Performance Tests



According to Shrock and Coscarelli, Performance tests...

- *"Provide an objective and reliable measure of the trainees' actual ability to perform a task by distinguishing those who can meet the standards from those who cannot. At the same time, they allow trainees an additional opportunity for practice."*
- *Provide a standard for performance against which all trainees can be evaluated consistently"*

p. 184, **Criterion Referenced Test Development: Technical and Legal Guidelines for Corporate Training** ©2007 Sharon Shrock and William Coscarelli



Examples of approaches to assessing higher level skills

Conventional questions that assess "beyond recall"

- Use of case studies, scenarios, video and/or other techniques designed to require higher level cognition required to get the right answer

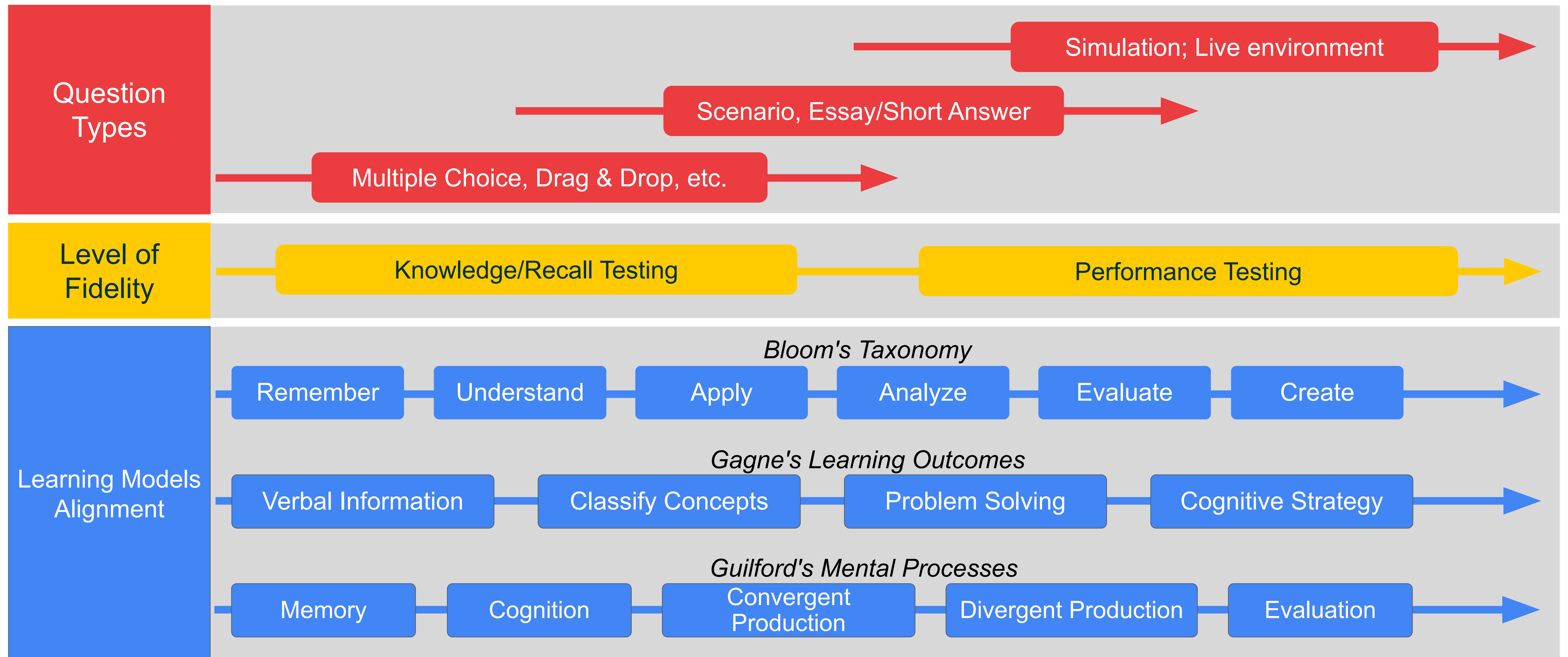
Observational Assessment

- A performance test in which an observer monitors a participant performing a practical task, answers questions and/or enters ratings about performance

Performance Tests via Hands-on virtual labs

- Controlled environment enabling:
- Participants to "learn by doing"
 - Performance tests requiring participant to perform task(s)

Performance Testing & Development Taxonomy



Why is validated hands-on essential?

Scenario-based Learning

Clark, Lave & Wenger

Adult learners must be placed in **real-world situations** for experiences to have the **relevance** necessary to achieve optimum knowledge acquisition.

Experiential Learning

Kolb, Moon

Adult learners need the **real-world environment** to best establish **relevance**.

Learn by Doing

Dewey, Reese

Adults learn more at a faster pace if they're able to **work through situations** on their own; **exploring and discovery** are part of the larger learning process.

Desirable Difficulties

Bjork, Bjork

Adult learners need to "get stuck" and have a chance to **figure it out on their own** in a safe environment; fail fast & "fail forward."

| Quick Poll (placeholder)

To what extent do you use hands-on experiences to validate that employees can adequately perform their jobs?

- ☐ 76-100%
- ☐ 51-75%
- ☐ 26-50%
- ☐ 1-25%
- ☐ Never



How well does your learning support demonstrable skill proficiency?

(Rating of 4 or 5 on a 5-point scale)

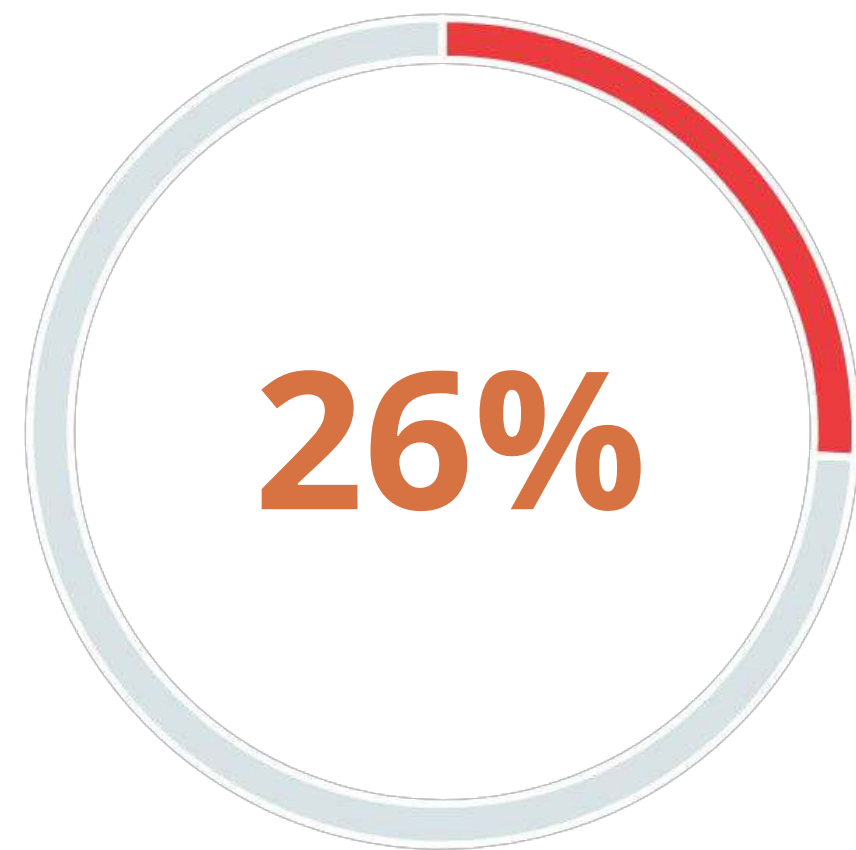


10%

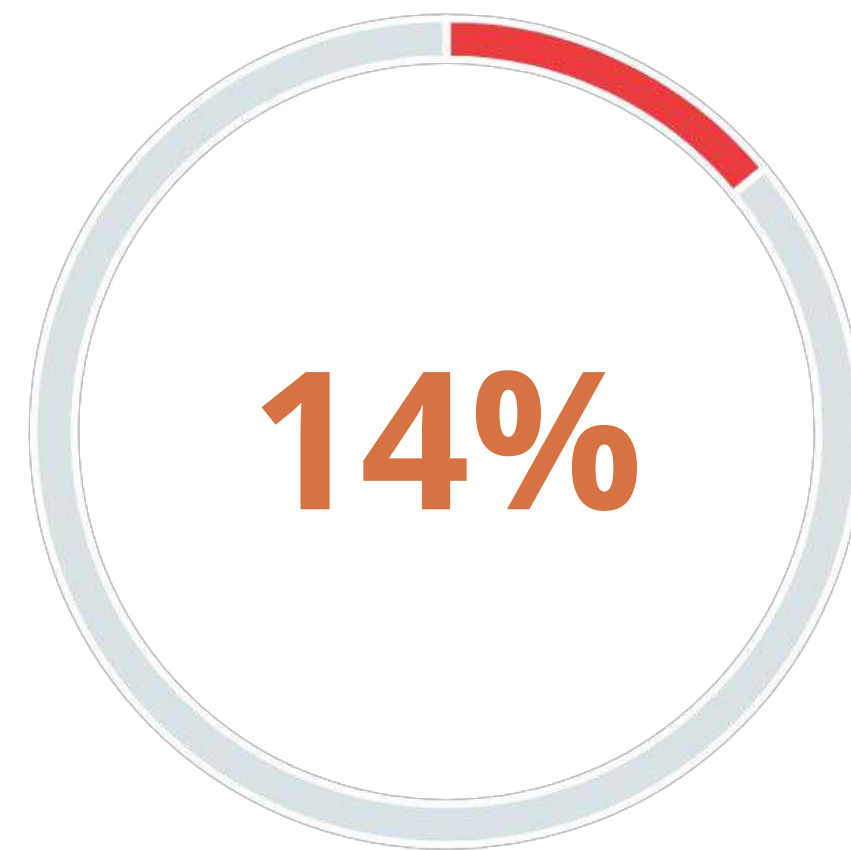
Source: Brandon Hall Group study,
Building the Next-Gen Learning
Technology Ecosystem



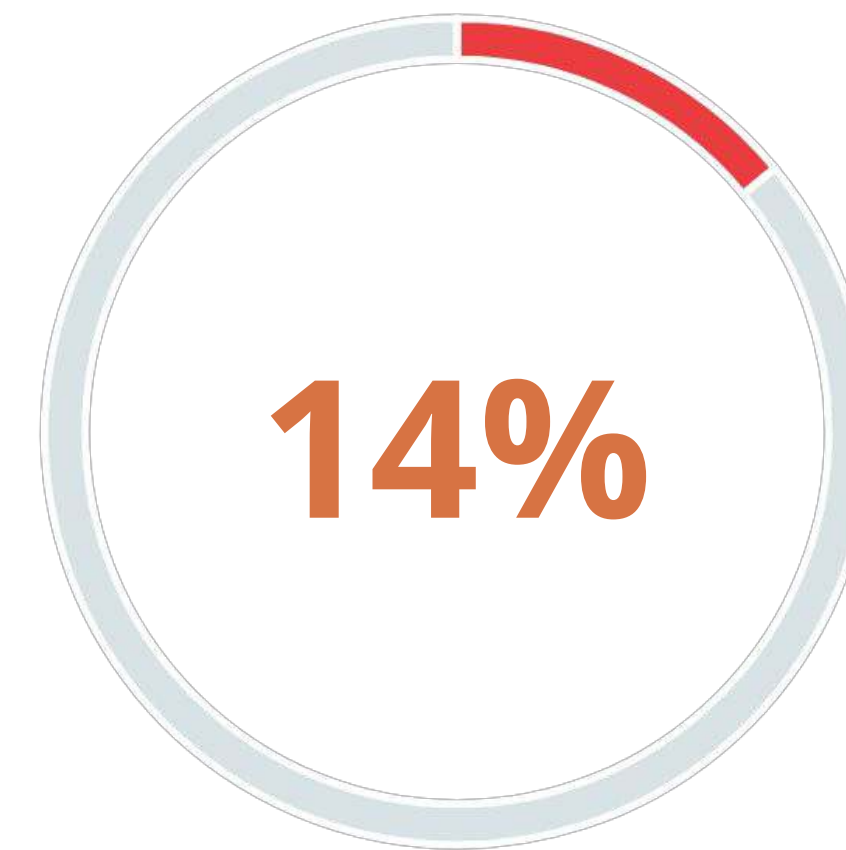
Frequent use of hands-on learning



Scenario-based,
cohort-based
learning



Scenario-based
skills validation



Games/simulations
(In-person)



Games/simulations
(online)

Source: Brandon Hall Group Study, Learning Benchmarking Study
Percentages represent organizations rating frequency of learning modality use at 4 or 5 on a 5-point scale

What are virtual labs?

And how are they used for learning and IT skills validation?

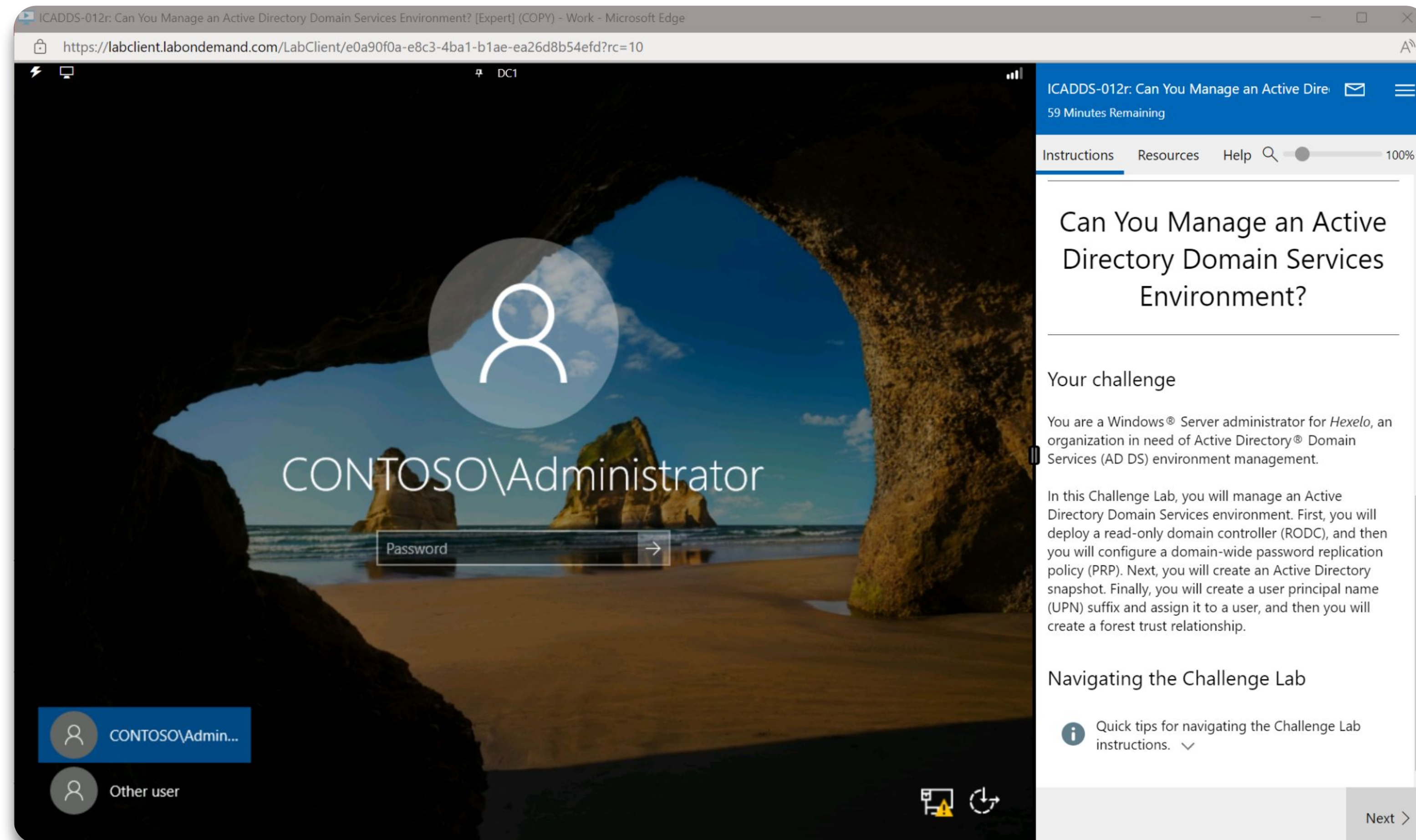
Virtual labs: What are they and how are they used?

A virtual lab allows you to learn by doing in a controlled environment.

- A virtual lab has two parts:
 - pre-configured environment
 - scenarios (instructions)
- Can require participant to
 - Perform task or series of tasks
 - Answer questions
- Lab captures activities, responses for scoring
- Integrating with Questionmark enables customers to centralize
 - Scheduling of assessments and Skillable activities
 - Results from assessments and Skillable activities



What are virtual labs and how are they used for learning and IT skills validation?



What are virtual labs and how are they used for learning and IT skills validation?

Software, cloud environments and websites are ideal for 'learning by doing' and 'performance testing'. Even virtual reality 3D labs have been created!

- **Software** can be installed and pre-configured inside a lab
- **Cloud** environments like Microsoft Azure and Amazon Web Services (AWS) can be tightly configured and managed
- **Websites**, including when you have to login, can have a lab 'wrapped around' it
- **Virtual Reality** can be used to simulate hardware



| Case Study (Forbes Fortune 15 Company)

Situation:

Customers having a difficult time getting support and as a result are dissatisfied and potentially switching to other alternatives

Challenge:

Improve the client support experience and time to issue resolution

- // Eliminate customer confusion 'press 1 for, 2 for, 3 for...'
- // Eliminate frustration caused by waiting 30 min for a person that does not have the skill to resolve the issue

Solution:



Customer Calls Support and describes issue in natural language



Technology extracts Skills needed for that Support Topic



Automatically Assigns to Rep that has completed the **virtual scored labs** for those Skills

Takeaway:

Business value is unlocked when you know the work your employees can do (i.e. Skill application)

| Types of training and certification programs that typically use virtual labs

Using labs across the entire skilling lifecycle is highly effective:

- pre-assessment
- learning activity (self-paced or instructor-led)
- post-assessment
- exam prep
- exam

Labs can be delivered for different levels of assessment:

- low-stakes
- medium-stakes (timed)
- high-stakes (proctored/monitored, timed)





Launching Skillable Virtual Labs from Questionmark

How it works

Skillable activity appears as "Assessment Type"

Assessments

<div><div>+ New</div><div>Copy</div><div>Delete</div><div>Export</div></div>			
<input type="checkbox"/>	<div>New</div>		
<input type="checkbox"/>	Title	Type	Assessment
<input type="checkbox"/>	BasicSkillableTest	Activity	01068470001
<input type="checkbox"/>	Windows 10 - Basic Coding Environment with VS Code	Activity	01128510001
<input type="checkbox"/>	Assessment with TotalScore Disabled in Feedback	Activity	01240050001

- Integration configured by Solution Services team: Adds "Skillable" as an "Activity Provider"
- Once configured, new option appears in "Assessments > New" menu (per screenshot)
- "Activity" is wrapped by Title, Description and Outcomes
- Activity is scheduled just like any other Questionmark assessment



Select Lab

Save

Exit

Notes

Title

Enter a title for this assessment

Description ?

Enter a description for this assessment

Activity

Select a Lab

Outcomes +Add

+

Pass

Delete

Score range: 70 to 100 ☐ Provisional

[Feedback](#)

[Email](#)

[Branching](#)

+




Fail

Delete

Score range: 0 to 69 ☐ Provisional

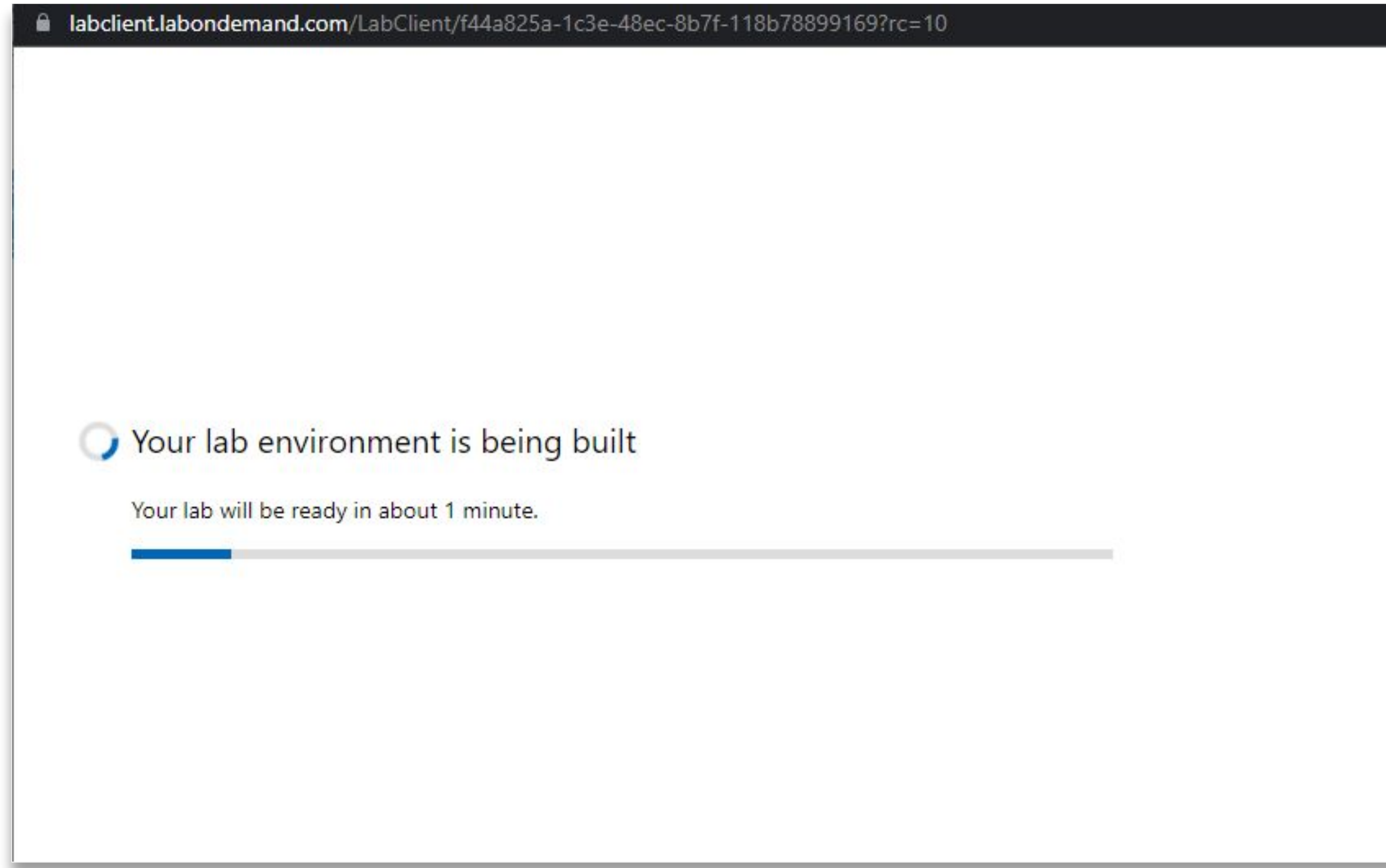


Participant launches activity from “My Assessments”

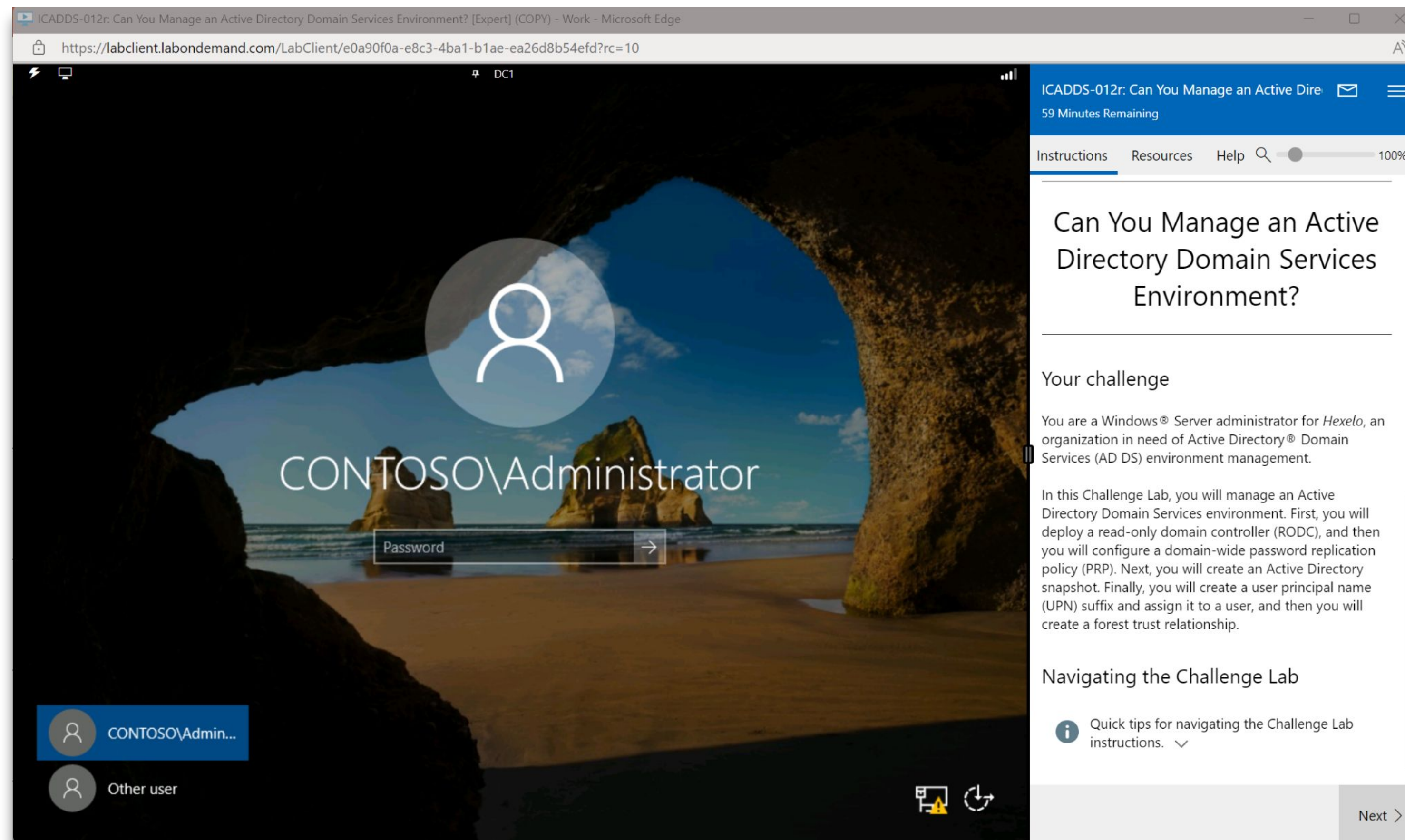
Home My Assessments My Results Buy Exam						 Quizmo McDemo
Name	Attempts left	Available from	Available until	Delivery	Actions	
Windows 10 - Basic Coding Environment with VS Code	1 of 1	13-Feb-2023 00:00	10-Mar-2023 23:59	Online Proctoring with Secure Browser		
Practice-Windows 10 - VS	Unlimited	1-Feb-2023 00:00	7-Mar-2023 23:59	Unmonitored		



| Lab environment is created on the fly



Participant enters lab



Launching Skillable Virtual Labs from Questionmark

Create activity

- QM author creates "activity" set to launch a Skillable virtual lab
- Skillable appears as available assessment "type"
- Activity specifies lab to be launched and outcome details

Schedule activity

- Group or individuals
- Date ranges
- Limit attempts
- Require proctoring
- Questionmark Secure
- Email broadcast

Participant completes activity

- Participant's launch activity via Questionmark portal
- Virtual Lab includes instructions, questions (optional), and scoring

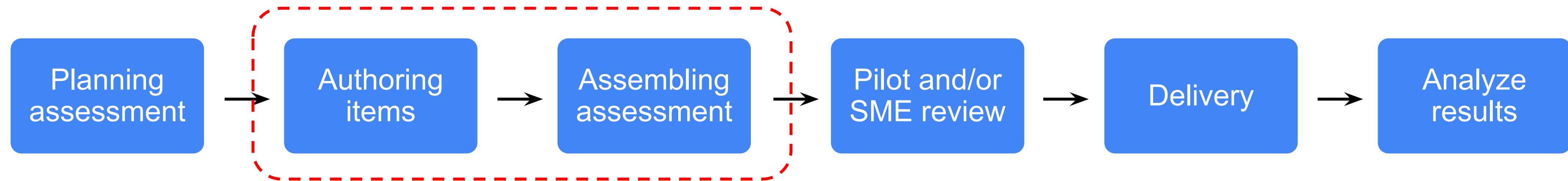
Get results from activity

- Virtual lab scores sent from Skillable to Questionmark
- Outcome (e.g. Pass/Fail) set by thresholds in QM activity entity
- Basic results in QM; Detailed activity reporting in Skillable

Best Practices



Configuring hands-on virtual lab environments



- (1) Confirm that the pre-configured environment will enable the type of scoring that you need
- (2) Built your lab environment so that multiple scenarios can use it in multiple ways
- (3) Write the scenario as the outcome expected, not as a list of tasks
- (4) A scored scenario should not be longer than 10-15 minutes
- (5) Group 2-3 scenarios together and deliver in the middle of the overall assessment
- (6) Labs generally requires two types of Subject Matter Experts (SMEs):
 - (a) Skill SME who writes the scenario
 - (b) Technical SME who configures the environment and scoring scripts



| Benefits of Virtual Lab-based Performance Testing

Added value for certification programs and candidates

- Performance testing for certification programs can increase perceived value of the credential
- Focus on outcomes helps to limit bias (but require well written scenarios)
- Re-use of lab environments outside of assessment helps to lower costs
- Viewed as more rigorous, harder to prepare for, and "real-world" than traditional item types
- More resistant to cheating



| Summary of key points

- Recall only small part of job requirements: If your assessments focus only on recall, they might not test job competence
- Hands-on virtual labs provide an excellent option for measuring "above knowledge" when validating IT skills
- Joint solution enables intuitive scheduling and secure delivery of virtual lab performance testing






What questions do you have?



Like to learn more?

 Reach out to your account manager!

Upcoming webinars

 Live webinar

Introduction to Questionmark's Assessment Platform

March 07, 2023 – 12:00 pm to 1:00 pm (EDT)

 Live webinar

Tuesday Training with the Techs: Proctoring Pathways – Knowing Your Options

March 21, 2023 – 11:00 am to 11:45 am (EDT)

 Live webinar

Observational Assessments – What are they, why, and when should you consider using them?

March 30, 2023 – 11:00 am to 12:00 pm (EDT)

Questionmark's latest report

Lifting the lid on the true nature of test cheating in organizations.

From misguided safeguarding measures to a lack of awareness of what constitutes cheating, The Test Fraud Fallacy outlines not only the severe consequences of test cheating but also the surprising approaches to proof and punishment occurring in multiple organizations.

Don't leave it to chance. Discover the true nature of test fraud and make use of our actionable resources to safeguard your workforce.

[Download](#)



skillable

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