MarineNet Assessment Security

What Is Assessment?

Assessment can be loosely defined as the process of documenting, usually in measurable terms, knowledge, skills, attitudes and beliefs. MarineNet assessment security applies specifically to end-of-instruction tests, exams, or scored practical applications that determine completion success or failure.

What Characterizes Low-, Medium-, and High-Stakes Assessments?

Low stakes assessments typically include quizzes, surveys, and end-of-course tests for courses that are solely learner selected and completed with the goal of self improvement. The consequence of failing is typically a need to focus attention and refine study strategies, and a learner is often allowed to re-attempt the assessment as many times as required to pass. The motivation to cheat is low and the likelihood of items and answers being copied and passed around is minimal. As a result, the stakes are considered low, as is the necessary level of assessment security.

Failing a high stakes exam, on the other hand, might prevent a Marine's promotion or desirable job assignment. In addition, significant human resources and time are usually needed to develop valid and reliable assessment items for such important exams. The motivation to cheat is much stronger, so a high level of assessment security is needed. High stakes assessment examples include standardized academic entrance, professional certification, and licensing exams.

Most MarineNet end-of-course tests and exams carry medium-level stakes. For example, failing an end-of-course test in the Incidental Motor Vehicle Operator Curriculum may prevent Marines from taking the on-road instruction as scheduled but is unlikely to prevent a promotion or get them booted out of the Corps. That said, failures may result in an angry unit commander who can't qualify enough incidental drivers prior to deployment, which may be sufficient motivation to attempt cheating. Cheating may result in drivers who haven't really learned all the necessary safety precautions, endangering themselves and their fellow Marines. Some assessment security measures are warranted.

What's Actually at Stake?

Over-engineering "low-stakes" assessment security can result in inconvenience to the MarineNet student and potentially his/her unit; unnecessary burden on USMC Learning Resource Centers and the MarineNet Help Desk, leading to increased operation costs; and wasted time all around.

Conversely, under-engineering "high-stakes" assessment security can undermine confidence in the training/education as a viable means of instruction; trigger questions about whether the assessment measures what it purports to measure; waste costly time and manpower in replacing overexposed assessment items; and potentially compromise follow-on resident instruction when students need significant remediation before planned instructional activities can begin.

Who Determines Security Requirements for a MarineNet-Delivered Assessment?

Typically, a CDET project officer and the course proponent collaborate on a decision matrix to make an assessment security decision. Should the sponsor's final determination differ, the PO ensures understanding of possible risks, consequences, and responsibility.

## What Assessment Configuration Options are Available on MarineNet?

"MarineNet Assessment Configuration Options" on page 2 of this document provides an overview of MarineNet's range of assessment delivery and security configuration options. To discuss specific questions or concerns, please contact CDET at CDET_Courseware@usmc.mil.

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MarineNet Assessment Configuration Options

Low ↑ Assessment Stakes ↓ **High**

Delivery Method	Specific Security Capabilities	Primary Advantages	Primary Disadvantages
Inline*	• **Requires MarineNet log-in** • **Requires specific enrollment**	**Inline assessment does not require student to exit course and launch assessment separately**	**Can neither verify student identity nor protect content**
Qpack** with no security features enabled	• Requires MarineNet log-in • Requires specific enrollment	MarineNet assessment tool delivery can impose mandatory "wait" period before re-launching after a failed attempt	Can neither verify student identity nor protect content
Qpack with one or more internal security features enabled	• Can randomizes questions, and, for most question types, shuffle answer choices to produce individualized tests • Given an adequately sized question bank, can create varied exam versions based on delivering a limited subset of available items • Can deliver via question-by-question template to limit the amount of assessment content shown to the student at any one time • Can deliver feedback about the content of missed items without revealing the actual question and correct answer	• Reduces risk of cheating by seeing/copying other students' answer selections • Provides limited content protection	• Does not verify student identity • Does not disable browser functions that may allow students to copy or print content

Qpack plus Question*mark* Secure	• Locks down student's desktop to improve content security
	 • Prevents (including but not limited to):
	    ○ Printing
	    ○ Task switching
	    ○ Capturing assessment content
	    ○ Viewing HTML source
	    ○ Exiting assessment inappropriately
	 • Employs Secure Sockets Layer (SSL) to encrypt communication between browser and MarineNet
		• Protects assessment content, improving trust in the results and reducing need to redevelop assessment items
		 • Prevents accidental exit and loss of data
			Requires installation of QM Secure application to local computer. Application is approved and pre-loaded to NMCI workstations (including LRCs) and free for download to personal computers but may not be available to Marines working on sister service networks.

MarineNet Proctor added to any Qpack configuration	• Authenticates student via a Government-issued photographic identification card • Requires code entry to unlock assessment • Provides visual monitoring of student behavior during assessment	• Verifies that student taking the assessment is truly the person enrolled and authorized to do so • Protects content via direct observation (dependent on proctor's continuous attention)	Requires an approved MarineNet proctor to enter a password for assessment launch, thus restricting "anytime, anywhere" convenience of online instruction
Learning Resource Center (LRC) Proctor added to any Qpack configuration	• Authenticates student via a Government-issued photographic identification card • Requires code entry to unlock assessment • Guarantees visual monitoring of student behavior during assessment	• Verifies that student taking the assessment is truly the person enrolled and authorized to do so • Protects content via direct observation by LRC Facilitator who is employed by MCDLP and trained in proctoring procedures	Limits student to completing the assessment at one of 40+ MCDLP Learning Resource Center
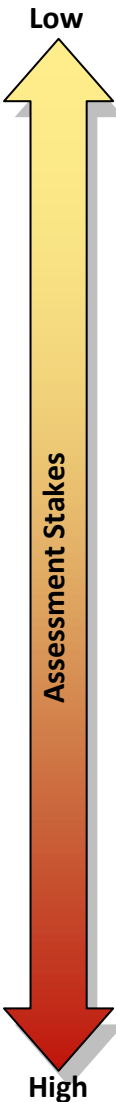
* An "inline" assessment is incorporated into the courseware package vs. launched separately. Options for inline assessment security are extremely limited.

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**MarineNet uses Question*mark* Perception (QMP) to deliver non-inline assessments. "Qpack" is the required format for a QMP-delivered assessment.

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