

Case Study Title: "Simulating" Success: Redesigning Assessment Timing for Diverse Learner Journeys

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Subject area: Nautical Science

Programme/Course: Electro-Technical Officer (ETO) Cadetship

Module/Unit: GMDSS Radio Operator Certificate (ROC) Training

SCQF Level: SCQF Level 7

Assessment Name: GMDSS ROC Competency Assessment (Part-Task Simulators)

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1. How would you summarise your practice case study?

This case study examines the curriculum re-sequencing of the GMDSS-ROC part-task simulator course for Electro-Technical Officer (ETO) cadets. Driven by the MCA's Cadet Training Modernisation agenda, the course was piloted in Phase 1 before cadets gained sea-time. Crucially, GMDSS training is traditionally for Deck Officers, so these non-deck cadets lacked maritime context. Completing heavy engineering workshops from Monday to Thursday also caused severe Friday fatigue. After just two days of teaching over two weeks, zero knowledge retention led to the pilot's suspension. The course was relocated to Phase 3 to allow vital experiential sea-time scaffolding first.

2. Why did you develop or enhance your assessment and what was your rationale?

The initial scheduling created a severe mismatch between curriculum design and learner readiness. Teaching the concurrent courses, my colleague and I immediately felt the phase and timing were ineffective. The course was placed in Phase 1 assuming early simulation accelerates competence. However, non-deck ETO cadets had no baseline familiarity with shipboard communication systems or terminology. Forcing them into high-stakes part-task simulator training directly after intensive Monday-to-Thursday engineering workshops caused severe cognitive overload. Without sea-time, the early assessment model created an immediate learning barrier rather than an accelerated pathway.

3. What enhancements or changes did you implement in assessment in making this more innovative, diverse or inclusive of diverse learner cohorts?

We halted the Phase 1 pilot due to the systemic barriers it created for non-deck students. The primary change was structural curriculum re-sequencing: moving the entire GMDSS ROC simulator block to Phase 3. This allowed diverse cohorts

to acquire essential sea-time experience first. This real-world exposure served as a vital pedagogical scaffold, giving students the situated knowledge needed to confidently engage with the part-task simulator assessments.

4. What informed your approach to the changes you made, e.g. student feedback, observations of student difficulty, insights from literature or research findings, assessment pass rates etc.?

Our approach was driven by classroom observations alongside clear student feedback regarding extreme Friday exhaustion. Academically, the change was informed by Cognitive Load Theory and post-digital education research. These frameworks highlight that high-fidelity digital simulation requires prior contextual scaffolding to prevent immediate learning failure.

5. What key changes have you seen as a result of this change to your assessment practice?

Removing the course from Phase 1 successfully eliminated the Friday cognitive bottleneck and learner fatigue. For the upcoming Phase 3 roll-out, we expect much higher engagement and technical retention. The new schedule allows the course to be delivered over four continuous days, utilizing the cadets' newly acquired sea-time as a strong contextual foundation.

6. How are you evaluating the effectiveness of these enhancements or changes implemented?

Effectiveness will be evaluated by comparing student performance data, simulator completion times, and feedback surveys from the upcoming Phase 3 cohorts against our original Phase 1 pilot data. This comparative data will directly measure the impact of the new timing on learner stress levels and technical skill retention.

7. Tips for practitioners:

Evaluate Timing, Not Just Method: If students face severe fatigue, review *when* the assessment is scheduled in their timetable rather than just changing the testing method.

Scaffold Before Simulation: Ensure non-deck or specialized cohorts have real-world sea-time or physical context before placing them into intense part-task simulator environments.

Protect the Schedule: Deliver technically dense simulator courses over short, continuous blocks (e.g., four continuous days) rather than spreading them out after heavy physical workshops.