



Computer Based Training for Shiphandling

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Setting the scene

- ✓ Shipping companies are increasingly focused on how people **perform** not how they train
- ✓ Performance and **competence** go hand in hand
- ✓ Competence is a combination of knowledge, understanding and proficiency (KUP) - acquired through **education and training and sea service**
- ✓ The most effective learning is **experiential**
- ✓ **Transfer** is the 'golden goose' of training
- ✓ Technology provides the means with which to make training **immersive, engaging** and **interactive**
- ✓ Generation Z are more embracing of **game based learning, computer based training (CBT), VR & AR** than any generation before them
- ✓ The diminishing cost of computer power makes new technologies accessible in mainstream MET



So what?

- STCW (2010) provides 'baseline' shiphandling competencies at the operational and management level
- The way in which training is delivered to meet these competencies is variable, time constrained and 'one-off'
- Competence is not forever. Shiphandling knowledge and proficiency need refreshing. But at what cost?
- Full mission simulation and manned models are effective but expensive, in a fixed location and may not be appropriate
- Industry now imposes shiphandling training requirements outside of STCW (e.g. OCIMF/VIQ7)
- As technology has made ships more efficient and cost effective, so too must technology in MET



Videotel's starting point



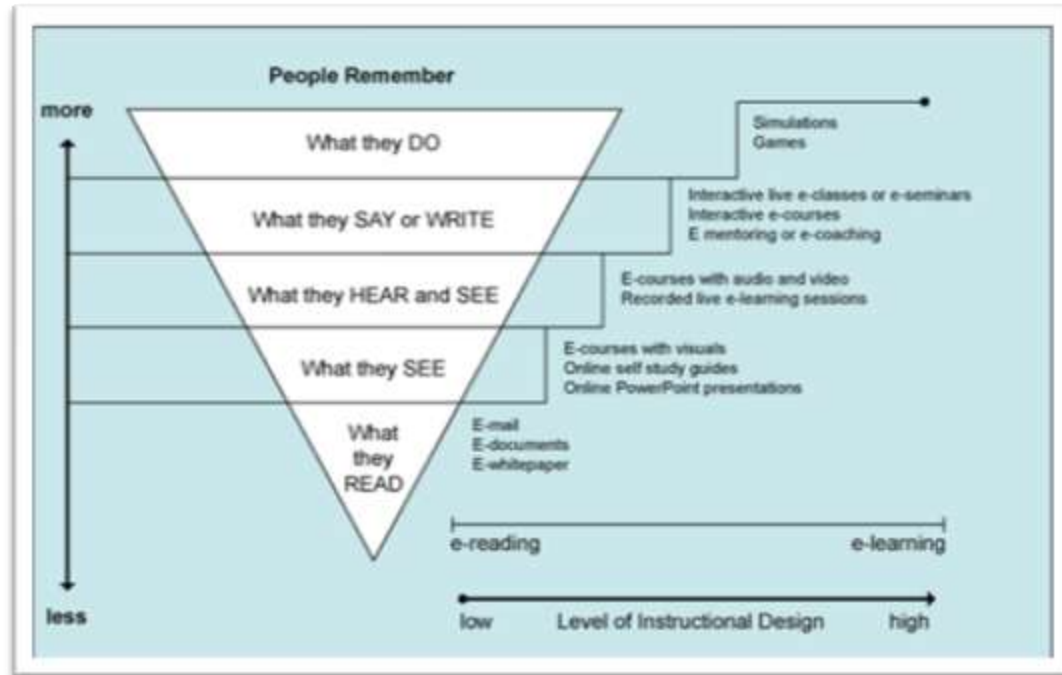
- 'Shiphandling' (3 part series):
 - I. Turning (26 mins)
 - II. Slowing and Stopping (15 mins)
 - III. Drifting (21 mins)
- 'Deepwater Shiphandling' (29 mins)
- 'Shiphandling in Restricted Waters – Bank Effect & Interaction' (31 minutes)
- 'Manoeuvring and Control Characteristics of Pure Car Carriers' (3 part series):
 - I. Wind Pressure Effect (30 minutes)
 - II. Anchoring & Mooring (30 minutes)
 - III. In Harbour Shiphandling (30 minutes)



But what else?



Learning Continuum



Why Computer Based Training?

- **Passive to active learning – self driven and self directed**
- **Integral assessment with options for further self study, reflective logs, taskbooks etc.**
- **Incorporation and integration of video, stills, animation, simulation and interactives**
- **Optional voice over and sub titles in multiple languages**
- **Lead to formal certification**

Importantly

- **Quality controlled**
- **Trusted**
- **Scalable**
- **Cost effective**
- **Repeatable**



Two new eLearning courses

Basic Shiphandling

Learning Outcome

Candidates will have an understanding of the theory of ship handling and knowledge of common ship manoeuvres on a conventional ship

Modules

- Introduction
- Basic Manoeuvring
- Environmental Forces
- Situational Forces
- Controllable Forces
- Propellers, Rudders and Hulls
- Turning
- Anchoring
- Stopping

Assessment

A series of module tests and final course test



Advanced Shiphandling

Learning Outcome

Candidates will be able to relate the theory of ship handling to unconventional ships and have an understanding of non-routine and emergency manoeuvres on conventional ships.

Modules

- Introduction
- Berthing and Unberthing
- Drifting
- Emergency Manoeuvres
- Heavy Weather

Assessment

A series of module tests and final course test

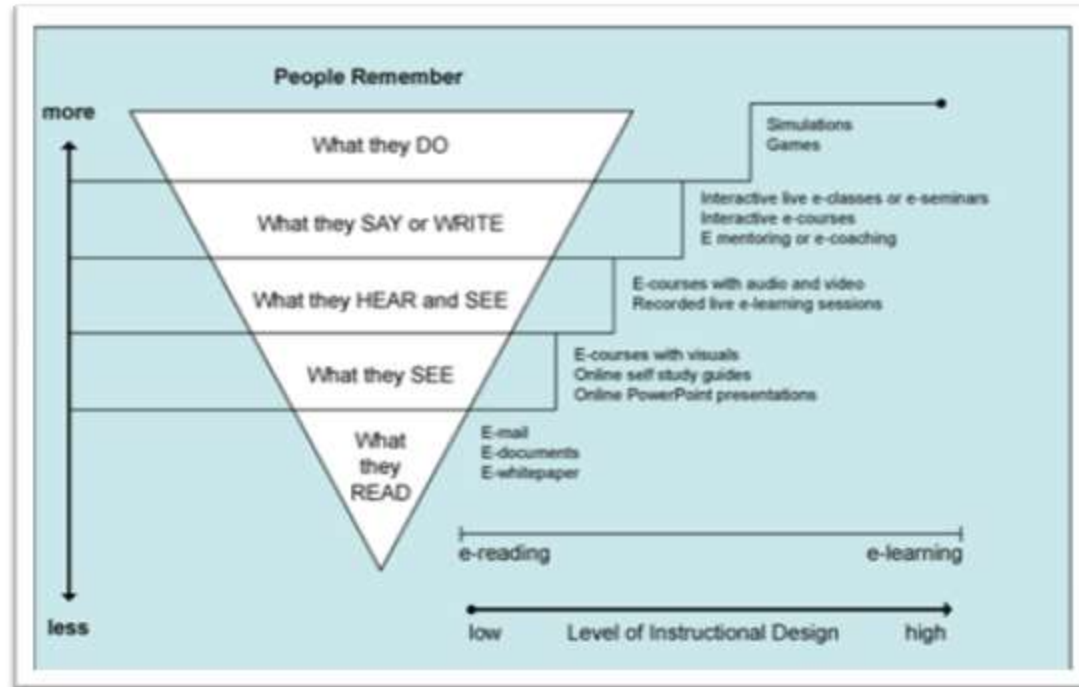
Passive to active learning

The screenshot displays a web application interface with a dark blue header and footer. The header contains a hamburger menu icon on the left and navigation arrows on the right. Below the header, the text "Screen Components > Cards" is visible. The main content area is titled "Cards" and features four colored cards arranged in a 2x2 grid:

- Geography:** A red card with a globe icon and the text "Geography".
- Ship Characteristics:** An orange card with a silhouette of a ship and the text "Ship Characteristics".
- Ship Types:** A blue card with a silhouette of a large ship and the text "Ship Types".
- Refugees:** A green card with a silhouette of a group of people and the text "Refugees".

The footer contains the text "VTS" on the left, navigation arrows and "4 / 10" in the center, and the "KIVIH VIDEOTEL" logo on the right.

Learning Continuum



Gaming Meets Training: Virtual Reality



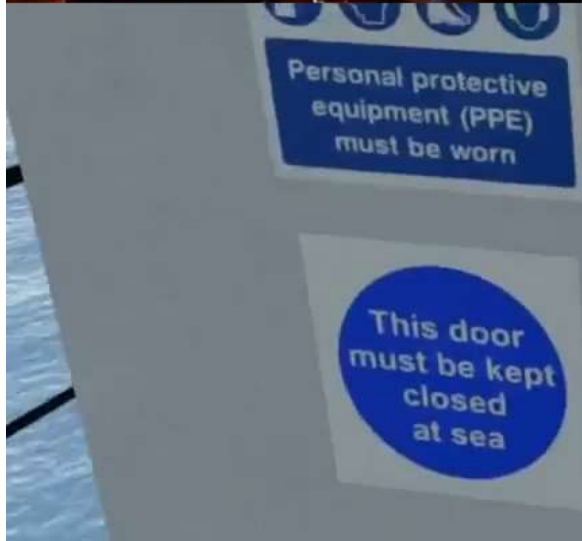
What is VR?

Virtual Reality

- Creation of a virtual world e.g. using 3D computer generated environments that users can enter and interact with.
- Immerses user in the virtual space.
- Achieved by the wearing of a VR headset

Augmented Reality

- Blending of the real world with computer generated overlays e.g. additional information
- Placing virtual objects into the real-world view so that they appear to be physical elements in the space e.g. as achieved by Microsoft HoloLens.
- Not dependent on headset





Virtual Reality

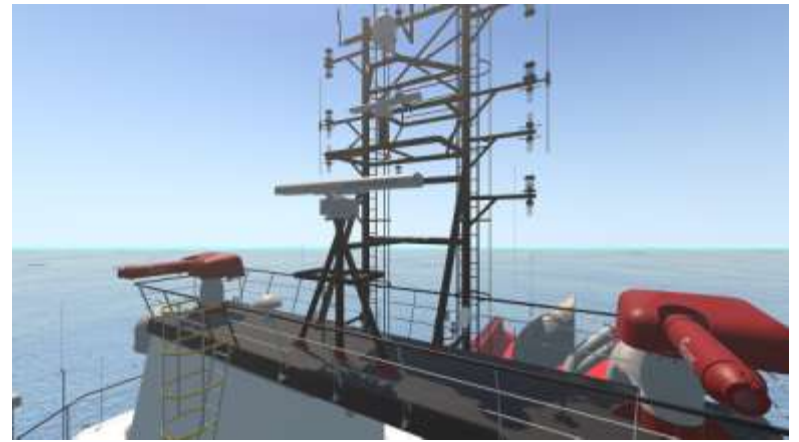
- Experiencing things they otherwise could not
- A safe 'sandbox' in which to make mistakes
- Haptics and motion detectors enable us to precisely track our real world movements – Muscle memory
- Sense of presence- being there
- More meaningful assessment - 'can do' rather than 'knows how'

<https://youtu.be/k3dWlxfGww>



Use of VR for Shiphanding...

- **Manoeuvring at sea** – e.g. collision avoidance, WOPs, river/fjord transits
- **In port limits** – e.g. embarking a pilot, pilotage, berthing/lifting off, holding station, constant RoT, STS transfer, anchoring
- **Non-routine** – e.g. heli ops, heavy weather and ice navigation
- **Emergency** – e.g. MOB, SAR, beaching, rendezvous
- **BRM!**
- **Others?**



The challenge for us...

To provide forms of learning (CPD) on the subject of shiphandling

That will...

- Supplement mandatory STCW shiphandling training at the operational and management level
- Be focussed on practical knowledge rather than academic theory
- Be as interactive and as experiential as possible
- Exploit all that modern training technologies can offer

While remaining...

- Learner centred
- Cost effective
- Available globally

COMING SOON





Thank You for Listening

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