

## Enhancing Situational Awareness with Improved Observation

Just because you see doesn't mean you observe. Observation is deeper. It's a mental process that involves both visual and thought. As a seafarer, understanding this difference is key. There's a great deal of emphasis on the importance of keeping a good lookout, such as rule 5 of the COLREGS, and rightly so.

But it is also important to know what you are looking at to be able to interpret the visual scene and to relate it to what the charts and instruments are showing. Even if there is no chart involved, what you are looking at may be quite different to what you actually see. Scale plays tricks. A bigger ship can appear closer than a smaller ship even though it is actually further away. A VLCC in ballast condition will appear larger than the same ship in fully loaded or even or even be invisible.

As a navigator, understanding how to better observe and use that information in your work is essential. Take the initiative to train your eyes and improve your visual perception. So let's talk about visual perception. Visual perception is the brain's ability to process and interpret visual information from the environment. In navigation, the ability to discriminate between different shapes and objects is crucial as is the ability to recognize and recall these forms and picture them in different orientations.

This is particularly important for tasks such as recognizing landmarks, following specific visual tracks, or identifying hazards and targets. Visual perception is deeply linked to situational awareness. Navigators have better situational awareness when they have a mental picture of where landmarks, navigation aids, and targets are relative to the ship and relative to each other. Like any cognitive skill, visual perception skills can vary from person to person. Nurturing your ability to recognize and understand visual cues and engage in mental imagery takes time and consistent effort.

But the good news is that like any skill, it can be improved. Even once these skills have been developed, it is important to keep practicing and maintaining them. Take a look at this example. A student who has not yet joined their 1st ship can easily recognize the voyage system or cardinal buoys on the charts or ECDIS because they are visually standardized,

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But in reality, boats may appear very different due to their design, location, physical conditions, distance, state of the sea, darkness, fog, etcetera. That is where sharpening our visual perception comes in, not only through practice and training, but by strengthening our visual sequential memory.

Visual sequential memory simply means being able to remember and recall a series of visual information, which is essential for maintaining situational awareness while navigating because being able to picture the likely sequence of events guides decision making. Visual sequential memory is important for wayfinding if you lose orientation. A study found that aviation pilots using their imagination to visualize their surroundings were better navigators. That is a primary aspect of successful navigation during fog or sandstorms when visual information is obstructed or if information from navigational equipment is unavailable because of a system or sensor failure. Visualization means creating images within your mind or picturing the steps within a process.

For maritime navigators, as for pilots, using visualization can help mitigate ambiguity and enhance their ability to make informed decisions in complex and uncertain situations. For example, imagine a highly experienced tanker master assigned to navigate through the Singapore Strait for the very first time. This renowned maritime passage is known for its complexities. The master will turn to the sailing directions, ECDIS, and Singapore guide charts. These documents give a guided visual task filled with detailed information about the straits characteristics, limitations, turns, speed, depths, current traffic, guidelines, etcetera.

The master will use this information to envisage the passage through all stages, appraisal, planning, execution, and monitoring, and to determine how they might react to various scenarios. The master will use charts to imagine what could be going on around their ship. Improving their visual perception skills is the key to unlocking the unfamiliarity of the area. Technology provides essential tools to check and validate your understanding of visual scenes, and has undoubtedly changed the way we access and interpret information.

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Overreliance on screens such as ECDIS, radar, PPU's, AIS, and optical support equipment can diminish the brain's ability to process and interpret visual information from the environment and to navigate using traditional navigation aids and landmarks.

It is essential to strike a balance between making good use of technology and nurturing your ability to engage in mental imagery. You should always understand what you see out the window and then compare it to what you see in the instruments. The main takeaway here is cross check. So how can you improve your visual perception? Dedicate time each day to engage in mental visualization exercises.

Begin with straightforward mental images, such as different types of ships or coal rig shapes. Start with simple objects and scenes, then move on to more intricate scenarios or tasks. Involve all your senses when visualizing. Try to determine the vessel's position, Learn from those who excel in mental imagery like masters, Learn from those who excel in mental imagery like masters, pilots, and observe their techniques. Carefully observe and describe details of your surroundings, and try to replicate these details in your mind.

Imagine a different perspective, how your ship appears to the target, and what aspect is visible to them. Imagine what the tug master can see while assisting the ship. Or if you are on a tug or pilot boat, imagine what the view looks like and how your vessel looks from the ship's bridge. There you have it. As a seafarer, you must be aware of the vast difference there is between simply looking out of the window and truly observing your environment.

Visual perception is a fundamental part of safe navigation and enhances your situational awareness.