



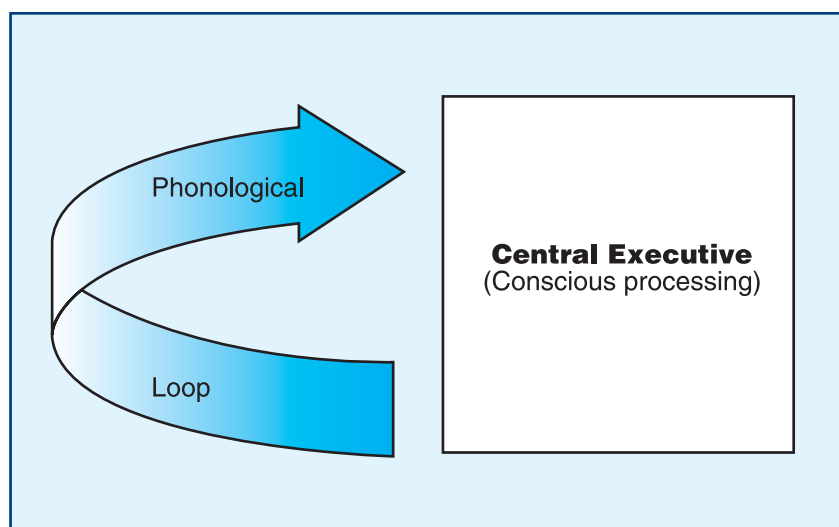
# THE PHONOLOGICAL WHAT?

Provided by Airservices Australia

A little known aural memory concept, known as the phonological loop has been identified as contributing to

information, you can hear things and respond without consciously processing the information also.

This is just one example of a mix-up that can occur without the controller realising it. We must not rely on those last ditch safety nets, such as STCA and TCAS to save the day - they usually will, but not without leaving a trail of frightened pilots and controllers (and perhaps passengers too). The best defence lies in good team work, encouraging members of the team to look out for errors, especially when the pressure is on. This in turn relies on strong leadership and a sound safety culture, reinforced by regular Team Resource Management training.



many communication breakdowns, especially information delivery errors. For example:

- Flight data record says aircraft squawk code 1234
- The controller erroneously instructs squawk code 1243
- The pilot correctly reads back code 1243
- The controller compares the pilot's read-back to his incorrect instruction (1243 = 1243)
- The controller detects a match and the error goes unnoticed.

The error occurs because the controller can detect the match [instruction code = read-back code] without ever having to process the information. The controller's instruction and the pilot's read-back are both stored in the phonological loop, which is an aural processing area of the brain that does not require conscious effort to store information. Just as you see things and respond without ever consciously processing the

It is important that controllers understand the perils associated with anticipating read-backs and accept the logic behind the memory prompts and checks that have been incorporated into the air traffic control system to mitigate these types of risks.

