



What do dolphins want? ELVIS-a new way of finding out

Conclusions

- ELVIS was shown to be a useful tool in cognitive studies
- Youngest and middle dolphin comprehended the touch screen mechanism
- Further development of system needed to make dolphins notice that there are different symbols
- More training needed



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ELVIS:

an Echo-Location Visualization and Interface System

Aim

- Introduce ELVIS to three bottlenose dolphins (*Tursiops truncatus*)
- Evaluate applicability as interface in cognitive studies
- Food preference study

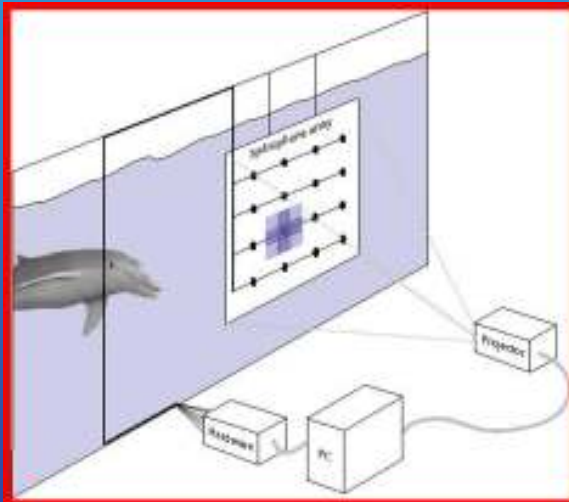


Fig. 1 Experimental set up.

Method

- Semi-transparent screen placed in front of underwater pool window
- 16-hydrophones matrix attached to screen pick up sonar clicks
- Active areas on screen function as buttons
- Buttons marked by different symbols representing different food items
- Sonar clicks used for "clicking" on buttons → acoustic touch screen

See Figure 1.

Results

- All dolphins comprehended to use the sonar on the screen.
- Luna (youngest) and Ariel (middle) learnt to use the symbols as buttons.
- Luna had the smallest variation in choosing times and Vicky had the largest variation (Fig. 2).
- The mean choosing times for Vicky and Luna were significantly different (Fig. 3).

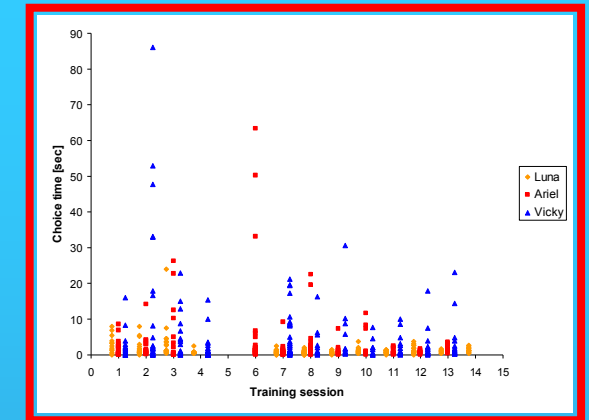


Fig. 2 Time from when the symbols appear on the screen until the dolphin "clicks" on a symbol. Values shown per individual and training session.

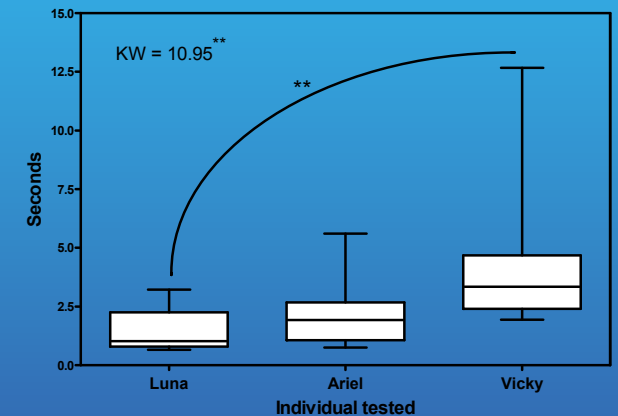


Fig. 3 Mean values for each session used in the analyses.
N=10 for each individual

- The only food choice was made by Ariel who chose cross (squid) before square (capelin).