BBC NEWS

Brain machine 'improves musicianship'

Scientists have created a technique that dramatically improves the performance of musicians.

The system - called neurofeedback - trains musicians to clear their minds and produce more creative brain waves.

Research, to be published in the journal Neuroreport, indicates the technique helps musicians to improve by an average of 17% - the equivalent of one grade or class of honours.

Some improved by as much as 50%.

Students were assessed on two pieces of music before and after neurofeedback sessions.

Neurofeedback monitors brain activity through sensors attached to the scalp which filter out the brainwaves.

These filtered brainwaves are then 'fed back' to the individual in the form of a video game displayed on a screen.

The participant learns to control the game by altering particular aspects of their brain activity.

This alteration in brain activity can influence performance.

A panel of expert judges found the 97 Royal College of Music students improved in a number of areas, including musical understanding, imagination, and communication with the audience.

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> Professor John Gruzelier

The technique has already been used to treat epilepsy, alcoholism, attention deficit and post-traumatic stress disorders, according to the researchers from Imperial College London and Charing Cross Hospital who conducted the study.

But Dr Tobias Egner said: "This is the first time it has been used to improve a complex set of skills such as musical performance in healthy students."

And Professor John Gruzelier added: "While it has a role in stress reduction by reducing the level of stage fright, the magnitude and range of beneficial effects on artistic aspects of performance have wider implications."

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