**Neuroscience shows why not everyone learns from their mistakes**

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(Medical Xpress)—Some people do not learn from their mistakes because of the way their brain works, according to research led by an academic at Goldsmiths, University of London.

The research, led by Professor Joydeep Bhattacharya in the Department of Psychology at Goldsmiths, examined what it is about the brain that defines someone as a ‘good learner’ from those who do not learn from their mistakes.

Professor Bhattacharya said: "We are always told how important it is to learn from our errors, our experiences, but is this true? If so, then why do we all not learn from our experiences in the same way? It seems some people rarely do, even when they were informed of their errors in repeated attempts.

"This study presents a first tantalising insight into how our brain processes the performance feedback and what it does with this information, whether to learn from it or to brush it aside."  

"Good learners', who were successful in incorporating the feedback information in adjusting their future performance, presented increased brain responses as fast as 200 milliseconds after the feedback on their performance was presented on a computer screen.

This brain response was weaker in the poor learners who did not learn the task well and who showed decreased responses to their performance errors. The researchers further found that the good learners showed increased communication between brain areas involved with performance monitoring and sensorimotor processes.

Caroline Di Bernardi Luft, one of the research paper's co-authors from the Federal University of Santa Catarina, commented: "Good learners used the feedback not only to check their past performance, but also to adjust their next performance accordingly."

"Though these results are very encouraging in establishing a correlation between brains responses and learning performance, future studies are needed to identify a causal role of these effects," Professor Bhattacharya added.

**More information:** [http://www.jneurosci.org/content/33/5/2029.abstract](http://www.jneurosci.org/content/33/5/2029.abstract)

Provided by Goldsmiths, University of London

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