

THETA

The Higher Education Technology Agenda

ICT as a catalyst for Curriculum reform, or how we paint with our brains

Innovation is not always about long term, million dollar projects. In 2014, the Innovation Techlab – part of the University of Sydney’s Information and Communications Technology team – purchased a \$159 consumer Bluetooth EEG device which was used by two cohorts of students from different Faculties to enhance their learning experience and provide them with the opportunity to create original projects.

In the first half of year, the Bluetooth EEG was used by a group of students from the Faculty of Science who came to the Techlab as part of a talented student program called “Crystallise your thoughts”. The students were given unlimited access to the EEG device and other emerging technologies owned by the Techlab. Using the Techlab’s equipment and methods such as iterative design and extreme programming, the students developed a prototype device that allowed varying brain signals to be used to play and compose electronic music. This project was presented at Parliament House as part of the 2014 Australian Conference on Undergraduate Research.

In the second semester of 2014, students from the Master of Interactive Design and Electronic Arts worked with the Techlab for several hours each week and used the Bluetooth EEG device to develop their design studio projects.

One of the graduate outcomes of this degree is that students will develop an understanding of the design process for interactive products, services and systems that will have lasting cultural and commercial importance. Using the Bluetooth EEG, students were able to create a unique digital art project which was launched at Broadway’s Central Park in November 2014. The project, entitled Mind Paintings, is an innovative, interactive project that enables people to paint with their minds by using the Bluetooth EEG to read their brain waves and translate them into abstract digital paintings.

This presentation will talk about how the Innovation Techlab has used a \$159 piece of technology to provide students with the opportunity to be innovative and creative in their

degrees, as well as exploring the innovation workflow developed by the Techlab over the past two and a half years, which is being used to maximise impact in teaching.

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