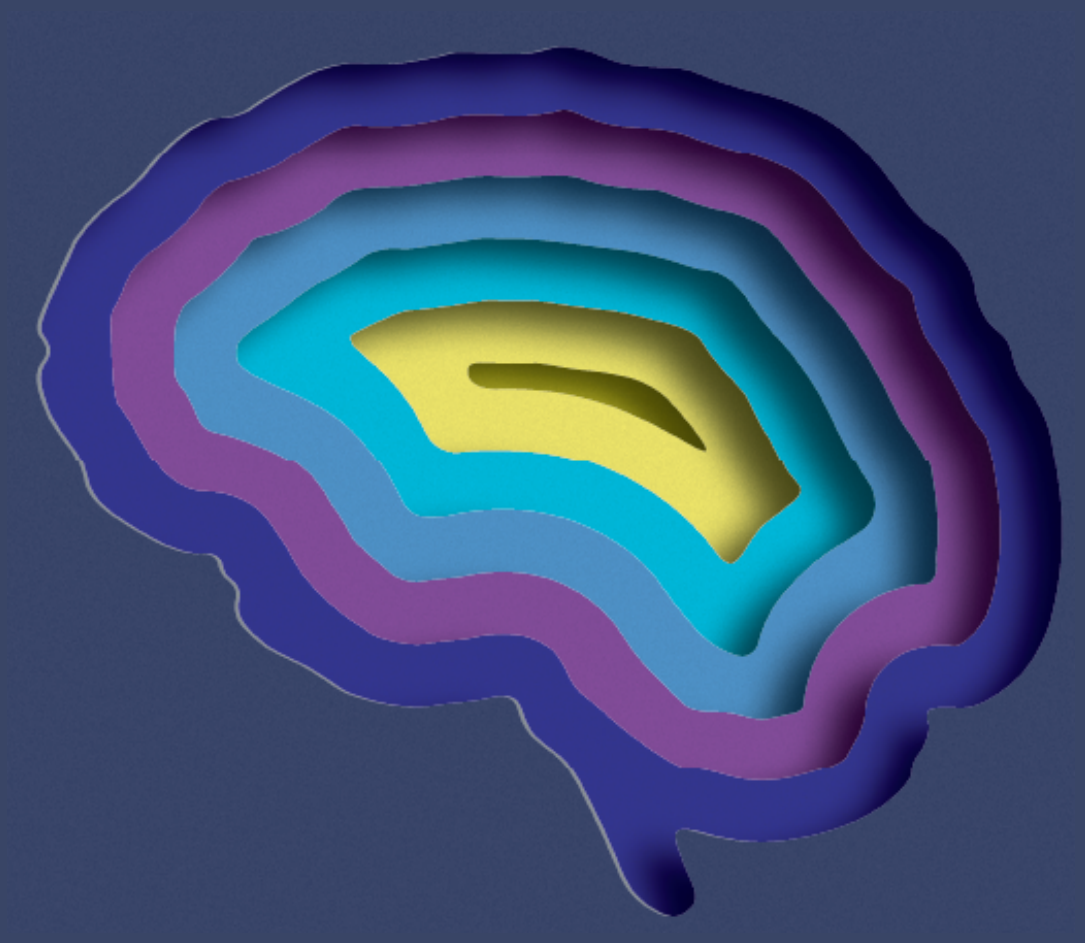
SCINAPSE

by Youth Neuro Australia



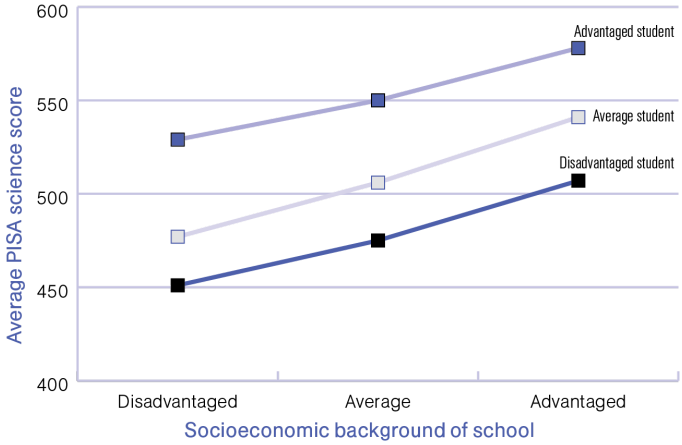
A Science Engagement Program for Year 9-10

YNA

OUR RATIONALE

There is a growing decline of interest in STEM, especially in younger communities who are discouraged by content-driven learning and the influences of society and the media. By the time students reach their senior years, many believe the material to be irrelevant to their lives. This presents a challenge for educators as they attempt to engage students with distinct knowledge, interest and experiences. Students subsequently miss out on a set of skills that drive many of the high-growth jobs.

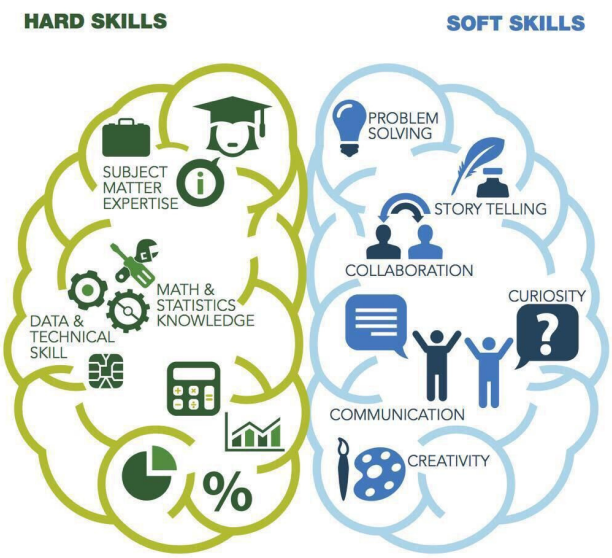
The deficits seen in STEM education are particularly pronounced in under-resourced secondary schools. Schools lack the funding and resources to engage students in STEM beyond the content of the syllabus and supplement their learning. In addition, most engagement programs target schools in metropolitan areas and students who are already high academic achievers. In contrast, our approach places key focus on those of low socioeconomic status, rural, or Aboriginal and Torres Strait Islander backgrounds, or are of female sex.



Relationship between student and school socioeconomic background and science achievement, Australia, PISA 2015

We aspire to enable students to discover their passion for science by improving access and fostering development.

We are striving to break down the misconception of science as a discipline of facts and formulae. We want students to realise that science is a way of thinking that can be applied to any problem, whether in their everyday lives, or in their future careers. Beyond this however, the process of science requires a myriad of key interpersonal skills: teamwork, communication, and in this digital age, a critical appraisal of information. Developed in collaboration with the Department of Education Advisor in Science and High Potential & Gifted Education team, our programs incorporate innovative teaching strategies that maximise retention of these soft skills to apply them in a variety of contexts.



TESTIMONIALS

In November of 2020, we ran a pilot version of our program to a group of 30 high school students. This session focused predominantly on neuroscience as a conduit to delve into science. To get some feedback on the program, we included a reflection station where students were asked to anonymously critique the day. Here is some of their responses:

"It was highly interesting and a fun example of what science can accomplish. I wish it went on for longer!"

Jasmine
Yr 9 student

"This workshop has sparked an interest in neuroscience, especially neurotransmitters and how they affect the body and assist with function."

Justin
Yr 10 student

"I learned the scientific method at school but it was good to apply it practically. These skills will come in handy especially in year 11 & 12 depth study."

Helen
Yr 10 student

OUR PROGRAMS

A RE-INTRODUCTION TO SCIENCE

Our flagship program tackles the biggest myth in science - "This stuff will never be useful." We are committed to paint science in a new light to show students its relevance in this modern world of information and technology. We want to prove that science is not that Friday afternoon period they desperately want over; because, Science is a lifestyle.

The program consists of four 90-minute workshops delivered at schools by our trained facilitators. Each workshop centres on a specific theme to examine creativity, critical thinking, and communication in science.

Workshop 1 - Defining science	Students apply empirical thinking to scenarios in science and pseudoscience.
Workshop 2 - A Voyage to Mars	On a mission to Mars, students explore creativity within the scientific method, and learn to appraise information online.
Workshop 3 - Bottles and Brains	Students consider models, and the growing role of technology in the context of neuroscience.
Workshop 4 - Science in Society	Students investigate how science is represented in the media, and evaluate the impact of science on society.

A FORAY INTO NEUROSCIENCE

In this one-off 90-minute workshop delivered at schools, students explore the fundamentals of neuroscience, then apply this knowledge to tackle a real-world problem. In the process, students are challenged to contextualise the role of science in society and consider pertinent ethical questions arising from scientific progress.

Our programs are entirely customisable, and we can accomodate for any timetabling needs.

Interested to find out more? Get in touch with us!

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ABOUT US

Established in 2018, Youth Neuro Australia (YNA) is a not-for-profit charity with an aim to inspire and potentiate the minds of young Australians in the world of STEM and beyond. Completely volunteer-led, YNA seeks to provide workshops, mentorship, online resources, and state-wide education programs tailored towards high school students, while also developing upskilling workshops, networking events, and volunteering opportunities for those in university.

YNA initially started as a small project in 2017 between two medical students -- Jade Pham and Onur Tanglay -- to give reason behind an unmet desire to provide public neuroscience and medical education, particularly to those who were less privileged in receiving similar opportunities in mentorship, research, networking, and general neuroscience and clinical knowledge. Both founders have their histories grounded in neuroscience, having both represented Australia at the International Brain Bee Championship, and have since been heavily involved in research and medicine. The plan was simple: to build a small group of young people to support other young people, by addressing education inequalities in accessibility issues in Australia, and promoting critical thinking and transferable skills through a refreshing yet practical take on "the brain in STEM".

"Fuelled by our collective passions, our mission is to engage and connect curious minds in STEM to foster creativity, innovation, and growth."

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