Broad Vision: A model of Interdisciplinary research and collaborative learning

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‘Education should be structured so that it is not the student that is educated, but that the student educates himself’

or, in other words,

‘…the real secret of education lies in not teaching’

(Vygotsky, 1997)
- Extra-curricular Art/Science collaboration project
- Students undertake collaborative inquiry based research
- Based on an emergent curriculum model
- Converted to a 15 credit module in 2013
Co-creation of Knowledge and Understanding

Collaborative Learning
(Lee & Smagorinsky, 2000)

Constructivism
(Moon, 2004)

Community of Inquiry
(Garrison et al., 2000)

Social Experiential Learning
(Vygotsky, 1997)
Research & Experimentation

Interdisciplinary exchange

Engaging Audiences
Interdisciplinary exchange
Broad Vision
Art/Science Research & Learning
at the University of Westminster
Broad Vision:
Interdisciplinary art/science research & learning at University of Westminster

A network to support collaborations, share research, develop projects and post interesting art/science stuff.

■ HOW TO USE THE NING SITE:
BLOG > If you want to share something
FORUM > If you want to start a discussion
You can also add PHOTOS, VIDEOS, add and keep an eye on EVENTS, COMMENT on other's content, and join GROUPS when projects start to take shape.

■ EVENTS
Inductions/Workshops/Tutorials
March 5, 2015 from 2pm to 5pm - Harrow, start in E2.03

■ FORUM
Research Project
Started by Danny Garside in Resources... yesterday.

Staff expertise
Started by Heather Barnett in Resources... Feb 20.

■ ACTIONS >>>
Project development...
Everyone is now in groups and working on turning proposals into projects. We are running inductions and workshops to support project work, but try to press ahead as much as you can independently.
We have confirmed that we will work with Arubyte gallery to set up for the final work review and open to the public - details to be decided, but put 28/29 March in your diaries for some public activities.
Research & Experimentation
Broad Vision
Art/Science Research & Learning
at the University of Westminster
Benjamin Palmer and Robbie Duncan
Mell Fisher, Kitti Edwards and Freddie Bell
Module Assessment

- Research Journal
- Critical Evaluation
I have designed an experiment that I couldn't perform as I would have to stay awake until very late in the night.

**Experiment 2)** Light response regeneration after a full exhaustion.
Full exhaustion by shaking heavily, and repeat every half an hour, one hour or two hours.
Flask 1 - every half an hour
Flask 2 - every hour
Flask 3 - every two hours

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<th>Hour/min</th>
<th>Flask 1</th>
<th>Flask 2</th>
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Although I didn't conduct this experiment, a similar one - and more professional - was performed by Widder and Case (1981). It was noticed that some recovery happened within 15 minutes, after full exhaustion, which is rather a quick recovery.

Furthermore, I know how I could improve this experiment:
Conduct the experiment until it switches back to light cycle (for 10 hours), and including other time sets: every 15 minutes.

The idea of the universe as a 'Giant Brain' has been proposed by scientists physicists say there may be some evidence that it's actually true.

According to a study published in Nature's Scientific Reports, the universe may be growing in the same way as a giant brain - with the electrical firing between brain cells 'mirrored' by the shape of expanding galaxies.

The results of a computer simulation suggest that 'natural growth dynamics - the way that systems evolve - are the same for different kinds of networks whether it's the internet, the human brain or the universe as a whole.'

The study raises profound questions about how the universe work, a co-author Kravtsov said. "For a physicist, it's an immediate signal that there is some missing understanding of how nature works," he told Space.com.

The team's simulation modelled the very early life of the universe shortly after the big bang by looking at how quantum units of space-time smaller than subatomic particles 'networked' with each other as the universe grew.
Engaging Audiences
Wired Up
art & science exploration of
social and biological networks

28/29 March
12-6pm
arebyte gallery
“This thing is kind of nerdy, but in a really positive and fun way.”

“Felt very good today. Getting hands dirty, so careless...It is exactly the opposite of my course, where to start with, we wear gloves and more often than not, there is only one way, a right way, to do something. “

“It’s really valuable to have the opportunity to try and teach others what you have been taught, helps to condense and revise.”

“I have never been part of an exhibition before, or had something commercially printed, or spoke at a symposium, or included in a book. Not to be melodramatic, but that’s life changing.”
Mellisa Fisher, Kitti Edwards and Freddie Bell
Broad Vision
Art/Science Research & Learning at the University of Westminster

Vibrionacci

Benjamin Palmer and Robbie Duncan

THE ROYAL SOCIETY

ROBBIE ANSON DUNCAN | VISUAL ARTIST & DESIGNER
AWARDED BEST IN SHOW AT D&AD NEW BLOOD 2014
Jedd Welland, Malgorzata Stasiewicz and JJ Hastings
Broad Vision as a model for interdisciplinary learning

- Model of interdisciplinary learning
- Develops graduate attributes desired by employers
- Applicable to other subject areas
- Model for elective modules at Westminster and is being explored by other Universities
Challenges of embedding co-creation approaches in the biosciences

- Interdisciplinary co-creation is resource intensive
- Timetabling across programmes
- Different disciplinary approaches to research and ensuring rigorous documentation
- Requires staff and students to move out of their disciplinary comfort zone
Acknowledgements

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