Utilising diverse teaching activities to support first year students

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What was the problem?

- Neuroscience student numbers increasing over 5 years
- 1st year course – shared units/other subjects
- Large cohort (>70 students), lacking identity

Core subject content moved to Yr1

- Students struggling with content
- Content lacked breadth and diversity
- Small group tutorials not possible
Continuing development of undergraduate 1st year Neuroscience units

Teaching the broader aspects of neuroscience
  ➢ Increasing breadth of subject area

Providing small group teaching
  ➢ Introducing structured large group teaching

Producing competent learners
  ➢ Developing scientific & study skills

Creating new teaching activities
  ➢ Repurposing the wheel

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Large group workshops

Creating a small group environment within a large group setting

- Collaborative working in small groups
- Completing a specific task
- Introducing scientific and experimental skills

Glasgow medical student, Mike McCormick, created human anatomy with candy

"The sweet diagrams provide an easily palatable lesson for interested newbies as well"

@CandyAnatomy

twitter.com/CandyAnatomy

Jo Howarth
Candy Anatomy

CREATE A PICTURE
DISCUSS your picture in your group
DESCRIBE to another group
WRITE A FIGURE LEGEND
PEER MARKING

Networking & collaboration
Scientific communication
What is a figure legend?
Utilising a marking scheme

Formative tasks, aiding students to develop scientific skills (e.g. writing figure legends)

Followed by summative assignments

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Student comments, feedback and evaluation

eVoting

Questionnaire

Google Docs

Course content

Activity session structure

Skills development

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Q. Lecture content at the correct level?

- Strongly agree: 10
- Agree: 60
- Disagree: 20
- Strongly disagree: 0

Aspects you liked:
- “The variety of content”
- “Content was interesting .... Workshops and HDRs are useful”
- “The unit had variety in the lectures”
- “Workshops/Hands on practicals”
- “Anatomy practicals”
Students reported that structured sessions were more useful than large group tutorials in helping them to understand lecture content.

Q. Teaching activities helped me understand the associated lecture material

![Graph showing teaching activities]

- Tutorials
- Candy anatomy
- Spinal cord
- Brain towers

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Talking things through & developing ideas with others

Explaining your picture to someone else

Hands on learning

Knowing what to include (in there) was useful

Visualising the anatomy

Really helped with socialising with fellow students

Had to be detailed... Labelling the image

Didn’t cover every element only looked at one part

Understanding wasn’t good enough to be confident of the model I was making

I hadn’t pre-learnt what we were revising

Let us do more than one picture ...... we can revise more

How to write a figure legend for assessed work (workshop 2)

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Q. Teaching activities helped me develop the following skills:

- Students developed figure legend writing skills as well as other scientific communication skills.

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Conclusion

• Students like the variety of lectures
• Hands-on workshop sessions & practical sessions
  • supported student learning and subject understanding
  • Facilitated development of core scientific skills and communication
  • Encouraged student interaction

• Structured sessions were perceived to be “more useful”
  • Encourage enquiry driven learning
  • Utilising established (and even forgotten) resources for another purpose

• Student still request small group tutorials ............
  as well as more workshops & problem solving tutorials
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Activity resources

• Candy anatomy: http://www.theguardian.com/science/blog/gallery/2015/sep/03