

LifeLab: translational research - taking contemporary science to students

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Aims and outcomes of the project:

For teachers

- To integrate contemporary science and health research findings and methodology into the key stage 3 curriculum in four pilot schools in Southampton and Hampshire.
- To provide professional development in translational research and curriculum design for eight teachers from Southampton
- To produce key stage 3 teaching resources based on translational research.
- To pilot and evaluate novel ways for teachers to work with scientists.

For students

- Engage students with state of the art research that is conducted in their city and hospital, with a focus on understanding how their early life affects their later health.
A previous pilot has shown meaningful changes in attitudes to health.
- Encourage students to consider careers in science and health-related disciplines.
A previous pilot has shown meaningful changes in attitudes to careers in science and health-related professions.
- Enable students to learn about how they can improve their own health and the health of their future children, with the aim of influencing their health literacy and lifestyle choices, especially with regard to diet and physical activity.
- To evaluate attitudinal changes in students undergoing the LifeLab experience as part of this project

Timeline of the project:



Meet the scientist: Research seminar

7 scientists were identified from Faculty of Medicine/ Southampton University Hospitals Trust to present their work.

ASTRA ZENECA SCIENCE TEACHING TRUST Seminar	
Science research at the University of Southampton Why does it matter to your students?	
29 th February 2012 Programme	
4.00	AZTT teachers discussion
4.30	Welcome Janice Griffiths Director of Science Learning Centre SE
4.40	How the first 9 months shape your life Lessons learnt from the Southampton Women's Survey Mark Hanson Director of Human Development and Health Academic Unit
5.00	The Healthy Generation Kath Woods-Townsend LifeLab project Manager
5.10	Feed me: baby nutrition before birth Jane Cleal Lecturer in Ergonomics
5.20	Take a deep breath: genes, environment and asthma John Holloway Professor of Allergy and Respiratory Genetics
5.30	A fishy tale for the heart Phillip Calder Professor of Nutritional Immunology
5.40	Kickstart your skeleton-how to grow great bones? Nick Harvey Senior Lecturer in Rheumatology
5.50	Premature babies: how to change their life Mark Johnson
6.00	What goes in must come out! Research into the other end of digestion Alex Mirnezami Senior Lecturer in Surgery
6.10	Animal, mineral, vegetable - how to get the balance right? Steve Wootton Senior Lecturer in Human Nutrition
6.20	Close - thoughts for the future Kath Woods-Townsend LifeLab project Manager
6.30	Buffer

The scientists gave a brief overview of the research, allowing the teachers to hear about the cutting edge research happening at the University in their city. The scientists were asked to think about why their research is important to school students (and teachers) and what messages about lifestyle choices they would want the teachers to pass onto their students, enabling the teachers to think how they could use ideas from the research in their teaching in school, both in Science and also PSHE.

We had a good mix of 7 scientists, all speaking for 10mins each. The feedback from the seminar was excellent. The mix of speakers was commented on (scientists/clinicians/surgeons), the ease with which they spoke about their research and the passion which they all obviously felt for their work. There were a number of requests for copies of the slides for use in school. One teacher commented "this really made me remember why I love science"

All the presentations were recorded and the powerpoints with associated audio recordings will be made available to the teachers involved in the project, but they will also be an excellent resource for schools to use.

CPD day 1

The next session held was the CPD day for teachers, covering topics such as:

- "What do we mean by translating research?"
- Modelling how to re-image academic scientific research into classroom resources"
- "A taster of LifeLab practical activities"

LifeLab AZTT CPD Day

Time	Activity
9.00-9.30am	Arrival & Coffee
9.30-10.30am	LifeLab and translating research AZTT project - overview and expectations LifeLab - What are we trying to achieve? Overview of the programme and progress to date. Translational research - why is it important? What do we mean by translating research?
10.30-11.00am	Coffee
11.00-12.00pm	Non-communicable diseases Brief reminder of presentations by researchers (card sort in groups) Select work of one researcher. Using materials provided, identify a (the) major research finding that is relevant to the LifeLab/AZTT project and your teaching. Modelling of how to translate research into classroom resources
12.00-1.00pm	Lunch
1.00-2.00pm	Learn how to use the tools required to create classroom resources. Demo and hands-on practice
2.00-3.00pm	Identify the key items to include in your teaching sequences Produce an action plan for further work in school
3.00-3.30pm	Plenary & Evaluation



Current work

The teachers have been writing their modules of work and will teach them this term. There is a range of topics/main research ideas, including "A healthy heart", "Strong bones", "Nutrition". The teachers have put together a series of lessons, and have incorporated these ideas and lessons plans into student resource booklets to be used in class.



Future work

The modules of work will be taught this term. As part of the module of work, the school students attend a LifeLab day at the University (to be held at the Science Learning Centre SE). Currently we have 7 LifeLab activity days booked in, to be held between October and December.

The LifeLab activity day

This day will be tailored to each module of work, but in general, students will rotate through a series of activities which will be linked by a common theme, namely "how lifestyle choices could impact on their future health and the health of any future children".

The students may;

- learn how to take measurements to understand how healthy an individual is.
- measure the flow of blood through the carotid artery, linking this to blockages in the artery caused by poor diet.
- extract their own DNA
- learn how to study bone cells and to appreciate the importance of calcium in the diet
- investigated the transport of glucose and calcium across a real placenta.

Evaluation

We have previously evaluated knowledge, attitudes and behaviour, using pre and post questionnaires, incorporating the FFQ (Food Frequency Questionnaire) derived from the Southampton Women's Survey. We will continue to use this method to assess the impact on the students.

We will also evaluate through questionnaires, focus groups and in-depth interviews, the impact of involvement in this project on the teachers.