



INTEGRATING BIOMEDICAL SCIENCES: WIDENING PARTICIPATION

ACTIVITIES WITH GOVERNMENT INITIATIVES TO PROMOTE THE HEALTH OF YOUNG PEOPLE.

INTRODUCTION

The importance of widening participation activities to higher education is well known with respect to the current access agreements being published from every higher education establishment in the UK. The widening participation project described here was also designed to encompass another important issue, the government incentive to promote awareness of health amongst young people. This is a well publicised incentive driven by increasing proportions of the UK population being diagnosed as overweight or clinically obese every year. This project runs alongside that of increasing the understanding and interest of science and investigative skills of school children.



Figure 1: School Children performing the physiological measurements during the Health and Disease Road Show.

PROJECT

A widening participation project entitled 'The Health and Disease Road Show' was devised in January 2005 and financially supported by the University of Leeds through HEFCE funding. It targeted 1000 school children of various age ranges initially over a 6 month period. The road show was performed both at primary and secondary level. The road show involved performing relevant physiology experiments with school children so they got hands-on workshop experience whilst they learnt about

important areas of health and disease. The project also encompassed raising aspirations in the lower socio-economic areas in West Yorkshire. Most of the school children involved were from families from which neither parents had entered higher education. The road show built on areas embedded in the science curriculum, especially at key stage three, although it was designed to meet the needs of supporting teachers with the physiology aspect of teaching science from as early as key stage 1 up to A level. Schools were targeted through the current Aim Higher Scheme and also by flyer distribution to most schools in the West Yorkshire region. Demand from many schools within Leeds and the surrounding district was high. The road show session started with a simple PowerPoint® presentation that covered aspects of physiology in relation to health and disease. This explained how the heart functioned and how our physical appearance can be deceiving, such that we can appear of average size externally but with abnormal amounts of fat. The presentation covered the importance of diet and exercise, and body mass index was measured. The importance of keeping body mass index within the normal ranges as children and as adults was emphasised.

The children then had access to a circuit format of measuring physiological parameters such as height, weight, blood pressure, heart rate at rest and after exercise and peak flow rate. Daily diet and exercise were discussed and eventually they calculated their body mass index. They were able to compare their own results with the national averages for their age and height ranges.

After determining their body mass index, all the school children devised targets, related to their diet and exercise, for each of them to achieve. The effect of smoking, alcohol, caffeine, vitamins and minerals and partaking in regular exercise were also discussed. Photographs of the school children performing the measurements during the road show session can be seen in figure 1.

FEEDBACK

Feedback from both the school children and teachers was extremely positive, such that they wanted to book this activity again for the next academic year. School children from both higher ability groups and low ability groups gained very useful skills from this session (detailed below) and found it captured their interest in science. The majority of the teachers built on this session in their next lesson by asking the school children to write newspaper articles or prepare wall displays. Some even used the data collected to draw graphs and analyse how healthy their class was compared to the year group.

Skills developed during the road show:

- Measuring physiological parameters;
- Calculating data from parameters measured;
- Analysing data and comparing with normal values; and
- Understanding the importance of maintaining a healthy lifestyle.

CONCLUSION

Most school children knew little about the subject of physiology before this session. By the end of the session all school children left with ideas of not only how to be healthier individuals but also that science can be interesting, captivating and relevant to everyday life.

It is important to remember that these children could be our future undergraduates and perhaps more important, the population of the future. Therefore, raising aspirations by encouraging health and fitness has to be worthwhile!

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