

# LSIS Practitioner Enquiry: Making biology accessible for students specialising in non-science areas

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## LSIS Research

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## David Woods

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### Background

For many years, I have been aware that students sometimes find some aspects of the traditional biology A-level course less interesting, and that this negatively impacts on their studies. One particular area that many students find less interesting is plants. This is especially true of students who have a strong desire to enter a career related to human biology. Their negativity to certain aspects of the course may be due to peer influence or their experiences of previous science teachers making plants a less interesting topic on the biology syllabus or because they perceive the topics as irrelevant to them. Whatever the reason, if the students are unenthusiastic about aspects of a course, they are more likely to underachieve. Consequently, in order to raise achievement,

I and my colleagues in the biology department at Winstanley College set about reintroducing a human biology course aimed particularly at students with a very clear career path focused around vocational health studies, sport science or psychology.

### Starting point

As a department, we were keen to produce a course that was both challenging and stimulating for students, but delivered in a way that made it accessible to students who were likely to find the traditional biology course inhibiting. As human biology may be the only science that these students take, we felt it was important to ensure that they were provided with:

- good quality information before they embarked on the course
- a highly structured programme of study to support them whilst on the course, and
- extensive material to work with.

To ensure that the course we proposed to develop would meet the demands of the learners, we carried out surveys of prospective students over several years. We also consulted other successful large colleges across the country to analyse and evaluate how they delivered their course, why they delivered the course and how successful the course was. Finally, undertaking work for the examination board for human biology allowed me to gather vital information for ensuring the course was a viable option for the target group of students.

## Teaching and learning process

Our data suggested that there is an overwhelming urge for students to take human biology to avoid certain aspects of the traditional biology course, such as plants, rather than because of a specific interest in what the human biology course can offer. To ensure that prospective students' decision regarding studying human biology was fully informed, we made information available at the College's open evening and also ran 'Master classes' for Year 11 students from local schools to allow students to experience the human biology course first hand. At the same time, the college website highlighted the scientific demands of the course and drew the students' attention to the range of topics that may interest them, rather than, for example, highlighting the missing topics that they might choose to avoid.

We wanted to create a course that helped the students to take responsibility for their own learning as well as enthuse them. To help with these aims, we created a web-based year plan for the students on the departmental intranet which provided:

- a topic by topic breakdown of what students would be learning throughout the year
- hyperlinks to the homework tasks for each topic,
- exam question with mark schemes and model answers

- video tutorials specific for the exam board's specification, and
- custom made revision activities.

We felt the plan would enable the students to see the progression their learning would take throughout the year. Any problem areas that came to light during the homework tasks were addressed and incorporated into a tutorial video which was uploaded to the intranet site and made available for students to view at any time. The students were also encouraged to reflect on their own learning by targeting key areas in which they could improve themselves outside of the classroom.

The course was delivered very much with the students in mind. All topics that could be given a sporting, psychological or healthcare slant were given one. This made the material as accessible to the students as possible. Teaching covered a broad range of activities, including group work, practical tasks and 'Apple technologies', such as iMovie and Creative book builder.

### Impact

When we surveyed the students we found that all the students showed a willingness to take ownership of the website

planner by planning both pre- and post-lesson activities on their own, using the additional activities on the website to help.

When asked whether they found the website beneficial, all 48 of those surveyed said they agreed or strongly agreed. Comments included:

'It is the one lesson that I know what homework I need to do and always have a means of catching up on it'  
'It really helps that the whole course is already planned week by week'.

All students used the website planner to download their homework and used it effectively to hand their homework in on time. Some classes had homework completion rates as high as 92% over the whole term. The 8% of late homework included students who were absent from college on that day. As the work was available on line, many of the absent students still could get their homework in by the deadline. The total homework completion rate stood at 97%.

### Contact

This study was carried out by David Woods who is Assistant Head of Biology and Human Biology Co-ordinator at Winstanley College. If you have any questions or comments, please email: [Dave.Woods@Winstanley.ac.uk](mailto:Dave.Woods@Winstanley.ac.uk)