

## Implementing the Undergraduate Ambassadors Scheme (UAS) as a final-year project option

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### Background and rationale

In 2005 The University of Nottingham's School of Biosciences decided to participate in the Undergraduate Ambassadors Scheme (UAS).

The UAS ([www.uas.ac.uk](http://www.uas.ac.uk)) is a national scheme which provides a framework for awarding academic credits to undergraduates for engaging with schools. The primary aims of UAS are to provide:

- Undergraduates with key transferable skills;
- Undergraduates with subject-specific skills, gained from communication of their subject;
- Undergraduates with encouragement to consider teaching careers;
- School pupils; and
- School teachers with additional classroom support and access to University resources.

In terms of academic credits, university departments and tutors adapt the UAS to fit their requirements based on general guidelines and support documentation. Participating students complete an initial day of training in their university and are then placed in a local school, where they work closely with their teacher/mentor to provide teaching and practical assistance and conduct special projects. UAS students can work with any age group according to the wishes of the university department. Students are assessed on a portfolio of evidence including an end-of-module presentation and written report.

### Early decisions

Initial meetings with UAS staff, former UAS students and colleagues left me feeling a mixture of excitement and panic! I was excited to hear of the rewarding experiences of pioneer UAS participants, but daunted by the challenge of designing a new curriculum route. I was also concerned student UAS workloads — and the

academic and administrative support required — could easily become incommensurate with running the UAS as a 10-credit Year 2 module (the most popular structure at the time). I therefore developed UAS activities in two-stages, with the UAS-proper be offered to final year students as an alternative honours project. This was ambitious as our final-year projects are worth 40 credits (23.3% of the final degree mark). I also designed a new 10-credit Level 2 module, Communicating Biosciences, as a prerequisite for UAS.

### How to do it

#### *Stage 1: Communicating Biosciences module*

This module introduces students to the concepts of the UAS but has no school placement. It is generic to the School of Biosciences and is open to all BSc students. The module has proved extremely popular: numbers have grown to 95 for 2008/09.

The learning outcomes map to 18 of the 43 specific skills in the Biosciences Benchmark statement (QAA, 2007b) and in general are to:

- Gain an understanding of conceptual issues in communicating biosciences;
- Gain confidence in communicating their subject;
- Develop technical, organisational, interpersonal, and reflective skills;
- Understand how the needs of individuals within a diversity of audiences can differ;
- Develop the skills to engage people with the biosciences;
- Acquire, interpret and critically analyse primary research material; and
- Critically assess their peers' ability to acquire, interpret and communicate complex ideas.

### Module activities

Activities include lectures, tutorials and interactive workshops on topics such as:

- Advice and guidance on the importance of reflective learning skills and the maintenance of a reflective diary;
- Principles of written and verbal communication to informed and lay audiences; and
- Skills in word-processing and other IT skills.

Module assessment is 100% coursework, including production of newspaper articles, peer-marking, school lesson-plans which map to the National Curriculum, and a reflective learning journal.

### The learning journal

This critical component of the module was developed by Dr Martin Luck and is based on weekly (anonymous) online submissions of reflective thoughts and activities, and a (non-anonymous) final journal submission. To maximise weekly submissions, final (non-anonymous) journal submission marks are multiplied by the proportion of weekly submissions. Nine of the 49 participants in 2007/08 progressed to UAS.

#### *Stage 2: The Undergraduate Ambassadors Scheme – proper*

Final-year UAS activities were first approved for our students in 2007/08 under the existing Biosciences honours project module codes. The justification was that we considered the UAS to be academically equivalent to laboratory or literature-based final year projects. The aim of all our 40-credit final year BSc (Hons) projects is to provide students with an opportunity to undertake a programme of original research in an aspect of biological science. Project results are presented in a project talk and dissertation.

Research skills developed within UAS projects relate to communication and pedagogy rather than the technical skills required to solve a specific scientific problem per se. The focus of UAS projects includes:

- Consideration of learning and teaching strategies from the perspective of different participants (school pupils, university students, school teachers);
- Active participation in school-based activities; Critical reflection; and
- Quantitative analysis of the effectiveness of the research project.

### UAS assessment

The mark allocation framework is identical to other final year project modules: Quality of UAS-based research activity (30%); Dissertation (30%); Dissertation (second marker; 30%); and Oral presentation (10%).

The quality of UAS-based research activity is judged by the Biosciences UAS Co-ordinator.

UAS students submit a dissertation (ca 10,000 words, excluding references and appendices) which is independently marked by two academics. The mark allocations for the dissertation in 2007/08 were: Abstract (5%), Literature Review (25%), School Placement Report (i.e. a description of teaching activities/lesson plans, quantitative analyses etc., 25%), Retrospective (25%), Written Expression (10%) and References (10%).

### UAS activities

#### *Literature Review*

Students are advised that their UAS project is a rigorous academic exercise and their Literature Review should be as methodical and rigorous as for a laboratory or literature-based dissertation. Students meet regularly with their supervisor to discuss the structure and content of their Literature Review, which comprises ca 4,000 words excluding references and must include specific aims and objectives. Students are advised to introduce the UAS and to consider how its aims and objectives relate to learning and teaching theories in the pedagogical literature. Students are expected to identify appropriate literature (including education papers and books) and web-based information, and compile a cohesive overview including a critical appraisal of sources.

#### *School Placement*

UAS students must take ownership of their relationship with their host school at the earliest opportunity. Thus, placement terms are negotiated between the school and the UAS student, who is encouraged to record this interaction in their Retrospective. Prior to their placement, students are inducted by the Biosciences UAS Co-ordinator. This includes a briefing on their placement school and provision of Criminal Records Bureau (CRB) forms. Students submit their forms in early-October and contact their school within one week of obtaining CRB clearance. Students are expected to visit their designated school prior to the school October half term and this visit may include an observational session. During the school half-term holiday UAS students attend induction/training sessions organised by the WPU (generic training for student ambassadors) and the PGCE Science Team (introduction to science teaching

and the National Curriculum). A School Placement Plan is developed following negotiation between UAS students and the school. Placements consist of a minimum of 10-12 sessions (each of 3-4 h duration excluding preparation time) in their school. These placements are ideally arranged into two discrete blocks before and after Christmas. A typical School Placement Plan might develop thus: (1) Observation, (2) Classroom Assistance, (3) Lesson Hotspots, (4) Lesson Plan and (5) Lesson Delivery. School Placements may also involve extra-curricular activities. The School Placement Report is a core part of the dissertation.

### *Retrospective*

The Retrospective is a reflective document, of ca 3,000 words. It is an important element of the student's project work, providing a synthesis of the weekly Learning Journal entries, and including thoughts about activities and progress on the UAS. The Learning Journal is used to describe events, lectures, discussions, study tasks, ideas or feelings. Entries can be substantial or small, significant or trivial, and can be written immediately (i.e. at the time or shortly after the event) or over the longer-term (e.g. after looking back over a period of time). The Learning Journal is more than just a diary (i.e. a list of events, kept as a reminder or a record) or log-book (a detailed record of events, facts or data), although it may contain elements of both. The Retrospective should be used to prompt new ideas and allow the student to identify how their knowledge, skills and understanding have developed and how their views have changed. It should also include critical reflections on how the learning and teaching strategies discussed in the Literature Review related to participation in the school placement.

## Advice on using this approach

### *Securing UAS school placements*

A daunting aspect of implementing the UAS was to establish contacts with local schools. Staff in our WPU provided contact details of potential school partners. For 2007/08, three students expressed a preference for secondary placements, and one for primary. Placements were established in September 2007 for placements starting in October 2007. I was tremendously impressed by the willingness of local schools to become involved and was able to secure the support of four schools after visiting them to discuss the UAS scheme. I strongly recommend using a personal approach to recruiting partner schools. For the nine 2008/09 placements, I had visited and confirmed six schools by early-July

2008 and await meeting dates with two schools and a Further Education (FE) college as we have a student who has expressed this preference which we aim to accommodate.

## Does it work?

My experience of implementing the UAS as described has been overwhelmingly positive. The UAS office provided excellent support during the early curriculum development. The support of our Learning and Teaching Committee was essential for guiding curriculum development to the satisfaction of the five Divisions within Biosciences. I also found the support of the WPU and PGCE teams invaluable. Engaging potential partner schools has proven less challenging than feared and forging new interactions with local teachers is fast becoming a highlight of my teaching activities. UAS partner schools complete post-placement forms, and the feedback has all been extremely positive. For example, one teacher mentor writes, "[the student] was very enthusiastic and keen to learn. He ran a lower school science club which the students loved! He worked with a difficult Year 11 class and the students in there respected him and liked him ... I believe he has the potential to be an excellent teacher". From the students' perspectives, the experience has been extremely beneficial. One student writes, "[the UAS] has given me an immeasurable gain in terms of my understanding and learning ... [the UAS is] a sound introduction to the teaching profession, while providing key skills that can be very attractive to other employers." Another writes, "The UAS project has been an inspiring learning curve. Over the 20 weeks of organising, attending and reflecting upon the school placement I have made steady and some surprising progress with my communication skills."

## Troubleshooting

During the 2007/08 session, it became apparent the single biggest issue in running a 40-credit UAS scheme is that some academics are reluctant to accept it is academically equivalent to a final-year laboratory based project. This is not a new issue as academic opinion differs on many final-year projects with a strong focus on communication. However, this is a minority view. In my opinion the UAS is entirely appropriate as a final-year honours project and its academic equivalence is clear from the dissertations produced (for example, see accompanying website). To allay some of these concerns and to ensure students are being judged equally, future students will be asked to include a specific lesson plan which relates directly to their own degree subject within

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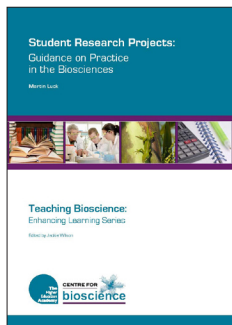
their Dissertation, irrespective of whether they were able to deliver this during their placement. The marking scheme will be adjusted accordingly.

#### Further developments

No specific problems have yet arisen. However, due to the increase in student numbers we will run UAS under a single module code in 2009/10, so we can:

- Run a separate UAS undergraduate symposium to ensure consistency of marking and engage more colleagues.
- Pursue formal accreditation of UAS for specific degree courses.
- Appoint a new external examiner with specific responsibility for UAS and Communicating Biosciences.
- Better advertise the UAS to prospective undergraduates.

#### Additional materials



This case study was written to accompany the Teaching Bioscience: Enhancing Learning guide entitled Student Research Projects: Guidance on Practice in the Biosciences, written by Martin Luck and published by the Centre for Bioscience. The associated website ([www.bioscience.heacademy.ac.uk/resources/TeachingGuides/](http://www.bioscience.heacademy.ac.uk/resources/TeachingGuides/)) contains a downloadable version of this case

study and the following additional material:

- UAS guidelines, 2007/08 (includes qualitative assessment criteria);
- An example UAS project dissertation (Rosie Honeyman-Smith, BSc Hons, Nutrition, 2007/08); and
- Module handout for Communicating Bioscience.

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