Descriptive Account

“Here’s one we prepared earlier”: involving former students in careers advice

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Date received: 27/10/2011

Date accepted: 16/11/2011

Abstract

Graduate employability is an important concern for contemporary universities. Alongside the development of employability skills, it is also crucial that students of bioscience, a ‘non-vocational’ subject, have awareness of the breadth of potential careers that can follow from their initial degree.

Over the past five years we have developed the Careers After Biological Science (CABS) programme. Former students are invited back to describe their current role and offer practical advice to undergraduates who may be considering moving into a similar discipline. The speakers’ career profiles and associated resources are then collated onto an open-access website for the benefit of the wider community.

This project is characterised by two principal innovations; the pivotal role of alumni in the delivery of careers education, and the integrated use of multiple social media (web2.0) technologies in both the organisation of careers events and development of an open access repository of careers profiles and associated resources.

Keywords: Employability, alumni, careers education, web 2.0, careers awareness

Introduction

Several inter-related drivers are leading universities to place more overt emphasis on graduate employability. The global economic crisis is creating the toughest jobs environment for a generation (BBC, 2010; Higher Education Careers Service Unit, 2010) and in the third quarter of 2010, 20% of new graduates were reported to be unemployed (Office for National Statistics, 2011). Since August 2010, universities in the UK are required to include a statement about the employability of their graduates on the Unistats website (<http://unistats.direct.gov.uk>) and, from September 2012, employment and salary data will form part of the Key Information Set (KIS) data that Universities will need to publish for potential students (<http://www.hefce.ac.uk/learning/infohe/kis.htm>).

What is employability?

The most widely accepted definition sees employability as “a set of achievements – skills, understandings and personal attributes – that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy” (Yorke, 2006: p8).

Many observers have rightly stressed the skills dimension within this definition, but it is important not to overlook the clause “...in their chosen occupations”. The range of careers that can follow from a biology-related course is a potentially attractive feature of such degrees. However, students are often unaware of the diversity of roles that they might pursue and struggle to see beyond the familiar ambitions to head into laboratory-based research, school teaching or further training as a medical doctor. Careers awareness is therefore an important component of employability and is the *raison d’être* of the *Careers After Biological Sciences* programme at Leicester University.

The present paper charts the evolution of this series of careers events for bioscience students and the parallel development of an open access repository of careers talks and other careers education resources. The account serves two purposes. Firstly, it brings to the readers' attention an established and growing archive of career profiles, illustrating the diversity of jobs that can follow a bioscience degree. Secondly, it provides practical suggestions for colleagues interested in adapting our model to produce bespoke careers materials for their own institutional context, with an emphasis on the value of social media within this process.

Development of the *Careers After Biological Sciences (CABS)* programme

On top of the global justifications for enhancing the provision of careers education for our students, an academic review of Biological Science at Leicester, conducted on behalf of the Quality Assurance Agency in Spring 2006, reported that *"some students have expressed a wish for additional careers sessions to be provided specifically for Biological Sciences students."* Furthermore, it was noted that *"Students...would like additional advice on careers-related issues. Whilst the School does provide advice in this area consideration should be given to ways in which it can be enhanced since current provision is not keeping up with student demand."* In consequence, the inspection team included improvement of careers advice as one of six recommendations arising from their visit.

In addition to the enhancement of employability skills teaching, both within and external to the formal curriculum, a model for provision of careers awareness seminars was devised. Following a successful application to the institutional Fund for New Teaching Initiatives, the Careers After Biological Sciences programme was launched in 2007.

Timing of careers events

From its inception, CABS was envisaged as a series of extra-curricular seminars. There were several reasons for the decision to run this programme outside the formal timetable. We were keen that the CABS sessions should be accessible to as many students, across all years of the course, that wished to attend. However, the curriculum for students of biological science is already very congested. Coupled with this, the flexibility in selection of module combinations in the second and final years of our degrees mean that there are few available timeslots within the working week where teaching was not already occurring. Additionally, the value of *"non-credit-bearing special events"* has previously been identified in the careers literature (e.g. Watts, 2006: p18).

During the initial years of the CABS programme, seminars were therefore organised as "twilight" sessions, with two presenters in a one-hour slot between 5 and 6pm, on a set day each week, over a four or five week period. This had the advantages both that students ought to be flexible to attend and that speakers would generally need to miss only a half-day of work in order to come and speak.

This arrangement, however, had the disadvantage that only two topics would be covered in any one session and, as will be explained below, this was ultimately considered to be a significant weakness in promoting awareness of a diversity of possible careers. In the most recent years we have therefore move from having five weeks with two talks per week (the "5 x 2 model") to having five talks on two consecutive Wednesday afternoons (the "2 x 5 model"). The latter is not a perfect solution since it discriminates against students with sports commitments, but on balance this was felt to be the lesser of two evils (not least because the talks are now all recorded in some format).

Choosing and contacting potential speakers

In the initial design of the CABS programme a decision was made that all presenters would be bioscience graduates from our own institution. We have allowed some deviation from this model to permit key “gatekeepers” such as the local admissions tutor from the School of Education, the Director of Postgraduate Research and the Sub-Dean of Medicine to talk about applications to Post-Graduate Certificate of Education courses, PhDs and Medicine, respectively. Apart from these we have stuck to the rule that only alumni can be speakers. Although this is theoretically limiting if, for example, we were keen to discuss a particular vocation but were not aware of any former student working in that field, we have nonetheless felt that it was an important benefit to invite only our own alumni since they are *de facto* the embodiment that it is possible to reach “*their chosen occupation*” from the essentially the same starting point.

A variety of strategies have been used to contact potential speakers. Some were undergraduate contemporaries of the author, who is himself an alumnus of the University. Others were graduates with whom the author or another member of staff has kept in active touch over the period since they completed their initial degree. Some contacts have been opportunistic, for example when the biography accompanying an article written by an alumnus included details of their undergraduate course.

Social media, such as Facebook (www.facebook.com) and latterly LinkedIn (www.linkedin.com), have also proven valuable tools for getting back in contact with former students (see Box 1). Searching of both services works best when tracking down students with unusual names. It is less successful when trying to become reacquainted with alumni that have common names. The fact that many female graduates change their surname after marriage also limits the effectiveness of this approach.

Box 1 Web2.0 tools used during the CABS project (free unless stated)

Facebook.com	The archetypal ‘social networking’ site. Used to establish and/or renew contact with former students, to invite them to give a careers presentation. Bioscience alumni group (started 2011) should facilitate staying in touch with future speakers
Libsyn.com	(<i>subscription required</i>) Service hosting audio files. No longer appropriate for this project as <i>Slideshare</i> now offers free hosting of audio files linked to slides
LinkedIn.com	‘Facebook for professionals’ an employment-orientated social network. An alternative means to contact alumni as potential speakers
Slideshare.net	Free version hosts slides, e.g. from presentations given by alumni. Has more recently added capacity to synchronise audio files with slides to produce ‘slidecast’ or ‘webinar’. Subscription service allows for addition of other features, e.g. video
Twitter.com	‘Microblogging’ service, used to advertise the publication of new careers posts on the CABS site
Vimeo.com	Video-hosting service. Not as well-known as <i>YouTube</i> , but even basic membership allows you to upload longer films (maximum weekly allowance 500 MB is easily sufficient to cope with a 30 minute video)
Wordpress.com	Blogging service, pivotal hub that hosts the <i>Bioscience Careers</i> website and allows easy integration of slides, videos and audio resources
YouTube.com	Archetypal video-sharing service. Better known than <i>Vimeo</i> , but standard membership has a maximum length of 15 min. Used here for bespoke work-place interviews, but too short for videos of presentations

Recognising these limitations, since 2011 we have coordinated a bioscience alumni group on Facebook. The group presently has over 240 members. Membership is a benefit to the former students since we use the group as a channel to update them with news from the School of

Biological Sciences. In the future it is hoped that it will also help us, by acting as a natural route for identifying CABS speakers.

This brings into focus the question of whether there is an optimum time gap between graduation and giving a careers talk. This issue is something we have been aware of since the very first year of CABS events at which, quite independently, two of the speakers pointed out that most of the audience had not been born when they were doing their degrees. Although observations of this kind do not negate the value of talking about a particular career, they inevitably emphasise a disconnection between the current and former students. As a consequence, we have sought in subsequent years to target speakers five to ten years after graduation. This period of time is considered optimal since it allows the alumni to have become established in their role whilst having been at university sufficiently recently to maintain a resonance for current undergraduates. This does not preclude invitations to graduates from outside this time frame if there is a particular reason to do so.

Alumni are asked to prepare for involvement in one of two formats. Some are invited to serve on a panel of people who have moved into the same field. More usually, however, they are asked to speak for about 20-25 minutes and to include three core pieces of information: what their current job involves; how they got there from their degree (i.e. a brief personal history); and top tips for anyone considering a move into the same field. They can tackle these points in whatever order they wish.

Careers for consideration

The choice of which jobs to cover in the CABS programme has been influenced by a number of factors. As noted above, one of the criteria remains the availability of an alumnus able to talk from experience about a given role. Since there is a deliberate intention to broaden students' awareness of different occupations, we have consciously looked to include a wide variety of careers (see Box 2 for a list of careers covered during the first five years of CABS). The professions considered have comprised both "Careers *in* science" and "Careers *from* science" (Osborne and Dillon, 2008), that is to say roles that are overtly scientific and those for which science is not a formal requirement but for which a scientifically-trained mind would be a significant asset.

Box 2 Careers presented during the first five years of the CABS programme

Academic Development Officer	Lab technician
Biomedical Scientist/Clinical Scientist (x2)	Lawyer (x2)
Classroom Teacher (x2)	Librarian
Clinical Trial Coordinator	Manufacturing Scientist
Conservationist at Zoological Park	Microbiological Services Manager
Cosmetics Developer/Formulation Technologist	Nurse
Dietitian	PhD students (talk and panel, x2)
Doctor (talk and panel, x2)	Police Officer (x2)
Drug Discovery Scientist	Postdoctoral Researcher/Research Associate (x2)
Ecologist	Research Administrator
Embryologist	Science writer/Journalist
Food production/Management	Teacher Trainer
Forensic Scientist	Welfare Officer

Over the lifetime of the CABS series, however, it has become clear that a tension exists between students' natural interest and the stated ambition of the programme to enhance their awareness of more diverse roles. Attendance at CABS events has not always been monitored; however for the 9 (out of 17) sessions for which data are available, the average (mean) turnout was 45 students (range 9 to 93). Seminars that included advice regarding one of the three 'obvious' steps that can follow a bioscience degree, i.e. doing a PhD, training as a teacher or studying Medicine, have always drawn the larger audiences.

This observation is a principal factor in the decision to move away from the "5 x 2 model" of two talks at any one event, to the "2 x 5" model, in which one of the recognised roles can be used as the centre-piece of a session in which four lesser-known careers can also be discussed.

Development of online resources

Inevitably, it is impossible to cover all potential careers within the duration of any one student's undergraduate courses, let alone on an annual basis. From the outset it has therefore been an important facet of the CABS programme that all talks were captured in some way so as to be of value to students that were unable to attend a particular session. Videos of talks given during the first series of CABS events were made available to other current students via the Blackboard Virtual Learning Environment (VLE). However the need to have a password to access the material renders the VLE an 'institutional silo'; it excludes both our own former students and those at other universities who might benefit from hearing about the careers discussed.

Fortunately the emergence of a wide variety of interactive web-based tools (Box 1) has allowed for migration of the CABS resources onto an easily-manageable platform, with access open to all interested parties. Since February 2009, lecture slides, audio files and/or videos have been organised via the www.biosciencecareers.wordpress.com blog. Modern blogging services, such as www.wordpress.com or www.blogger.com, offer an ideal platform for aggregating resources; they require only minimal computing skills, provide in-built search facilities and easy addition of tags and other metadata.

On our careers blog, the PowerPoint slides from each CABS presentation (including those given in 2007 and 2008) are embedded into the main page via www.slideshare.net. In addition to the slides themselves, we have experimented with a variety of other media. In 2007 and 2011 we made video recordings of the talks themselves. Although the notion of pointing a camera at the presenter and then uploading it to the web seems straightforward, there are a number of issues with this approach. The principal issue is one of expense – you are likely to need some technical assistance with editing and conversion of the video into a web-suitable format and this is likely to incur a fee. Videos of 15 minutes or more cannot be uploaded using a standard www.youtube.com account and you will therefore need to use an alternative service. www.vimeo.com is highly regarded substitute and, like YouTube, allows you to embed the video within your website. Unfortunately Vimeo does not have the same degree of visibility in search engines as YouTube and is therefore unlikely to bring you as much opportunistic traffic.

If a budget is available for video work, it might be better spent on shooting short bespoke videos of alumni at their place of work. We have done this on three occasions – visiting alumni working in cosmetic production (http://youtu.be/QXjO_NVay0Q), microbiological testing (<http://youtu.be/GmJIVmN8K7Q>) and as a medical doctor (<http://youtu.be/sYGM3y6rZz0>). As shorter pieces these can be hosted on YouTube and have received over 2100, 1670 and 2700 views respectively.

Alternatives to video

Assuming that funds are limited, a combination of audio recording and photography can be an effective alternative. In the absence of a video, a simple head-and-shoulders photo of the speaker adds colour and personality to the core site (Figure 1).

A Career in Ecology

JUNE 6, 2011

by Chris Willmott

tags: careers, ecology, Leicester, Mott MacDonald, University of Leicester, White Young Green, WYG

During the 2011 series of CABS talks, ecologist David Watson gave a talk *Name that Newt: Five things to kick-start a career in ecology*. Recognising that this is a highly competitive field to get into (no pun intended), David emphasised the importance of skills and experiences over and above academic qualifications. These included building up a portfolio of relevant volunteering and being able to drive – ecological sites are, after all, not generally in built-up areas.

David Watson

type and press enter

CATEGORIES

- > Academic Research
- > Administration
- > Biomedical Science
- > CABS2007
- > CABS2008
- > CABS2009
- > CABS2010
- > CABS2011
- > Clinical Scientist
- > Clinical Trials
- > Conservation
- > Cosmetics
- > Dietitian
- > Ecologist
- > Embryology
- > Events

Figure 1 Screenshot from www.biosciencecareers.wordpress.com demonstrating the merit of adding portrait photographs of speakers to the site

Audio files are much easier to edit than video using, for example, free software available from audacity.sourceforge.net or, somewhat counter-intuitively, the windows movie maker software that comes as standard on most PCs. We previously hosted our audio recordings at www.libsyn.com, a podcasting service for which a subscription was required. More recently Slideshare have added the capacity to synchronise lecture recordings with slide presentations as part of their free service. Uploading of these “slidecasts” gives users of the CABS website the opportunity to skim through the slides in isolation of to listen to the talk at the same time. We are currently in the process of linking audio files to our existing slide sequences.

Additionally, in 2012 we will be including student-authored reports of the talks on the website. This will not only reinforce the student-centred nature of the site but will provide something that those whose text is selected can include in their own *curriculum vitae*.

Summary of recommendations

Our website www.biosciencecareers.wordpress.com is already available for staff and students at other universities to use. In the light of our experience over the past five years, the following advice is offered for anyone considering establishing a CABS-style programme for their own institution.

Who: Alumni, especially those 5 to 10 years after graduation, demonstrate *de facto* careers that can stem from the very courses undergraduates are currently pursuing. Academic colleagues may be able to recommend potential speakers, but Web2.0 tools such as Facebook and LinkedIn can also prove valuable.

Events: If the intention is to expose students to a broad range of careers, organise an afternoon with 5 or 6 speakers. Include a range of Careers *from* Science as well as Careers *in* Science, but ensure that the programme features at least one “expected” career (e.g. PhD, medicine, teaching) as this will encourage greater attendance. A tea-break offers an opportunity to refresh the mind and to put informal questions to the speakers, but also offers an opportunity for escape, so think carefully about the order of the presentations. As a minimum, you should aim to take a photo of the speakers, keep a copy of their slides and make an audio recording of the talk (it is best to forewarn speakers that these are your intentions and to give them the right of veto over one, two or all three of these components).

Post-event resources: A blog can serve as a hub for archiving resources. Wordpress or Blogger host free and easy to use websites. Content of the site could include: slides from the talk, audio recording (possibly synched with the slides) and a photograph of the speaker. Written summaries of the talks (written by students), videos of the talks and/or shot on location with the speakers at their workplace are also possible.

Conclusions

Careers education is a broader task than careers awareness. Amidst the clamour to develop employability skills, however, it is important that the provision of “opportunity awareness” is not overlooked. This is particularly important for students in the bioscience disciplines for whom identification of potential career paths may be less clear than for undergraduates studying more vocational subjects.

Over the past five years, the CABS events have become an integral part of the careers provision at the University of Leicester. A recent employability survey conducted with students completing their bioscience course in 2011 ($n=118$, 72% of cohort) and staff ($n=48$, 50% of faculty) included questions about awareness of CABS events and an estimation of their importance. Using a 5-point Likert scale from “Strongly disagree” (score -2) through to “Strongly agree” (+2), students rated their awareness of the CABS events at 1.03 and their importance as 1.22 and staff scored 0.73 and 1.25 respectively (Mark Goodwin, personal communication).

The CABS approach offers a way to build a body of discipline- and context-specific material for use by present, past and future undergraduates. Although developed here for bioscientists, the CABS model could readily be adapted for use with students of other courses.

Acknowledgements

I am grateful to the University of Leicester’s Fund for New Teaching Initiatives for covering the costs associated with the initial development of the CABS programme. Dr Alan Cann has offered valuable advice about the use of social media and blogging. Dr Mark Goodwin granted permission to refer to some of his pre-publication data. Carl Vivian and Cliff Oakes of the Audio Visual Services edited our videos. Finally, I am most grateful to the many alumni who have given their time to come and give talks to current students.

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