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# Meteorology employers' requirements of graduates

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## Abstract

The author used a CETL-funded grant from the Centre for Careers Management Skills at the University of Reading to investigate the academic and non-academic requirements of a range of employers of meteorologists, principally forecasters. Nine organisations were visited, leading to the development of a list of factors that are seen as essential or desirable skills for successful forecasters. The experience has boosted the knowledge and confidence of both the author and careers colleagues in the shared teaching of the careers component of a compulsory Part 2 module on the Meteorology BSc. The benefits include better-prepared students and those related to the development of personal contact between the author and recruiters.

## Introduction

I have acted as the University of Reading, Department of Meteorology's Undergraduate Admissions Tutor for more than a decade, admitting students who almost all arrive with the desire to be either a weather forecaster or a weather/climate research scientist. Over the years, I became aware that some 60% to 70% of our BSc graduates ended up with such positions, or in related environmental science disciplines like Hydrology. Of the remainder, some did not want to pursue a career related directly to their course, while others simply did not progress through the interview/selection process successfully.

During this period, the University of Reading won a bid that led to the establishment in 2005, of the CETL-funded 'Centre for Careers Management Skills' (CCMS). I was awarded a Fellowship to investigate the view of potential meteorological employers on our degree programme content, and to establish what other skills are required (in addition to the obvious scientific skills attained by taking the degree). Any findings would then be incorporated into the Part 2 module entitled 'Skills for Graduates', about two-thirds of which is related to careers. The University of Reading made assessed (five credits) career 'training' compulsory for all undergraduate degree programmes from 2002.

## Visits

I visited nine employers of meteorology graduates mainly on my own, but occasionally with a colleague from the University's Careers Advisory Service. Each visit was preceded by sending the employer a copy of the BSc Meteorology programme outline and a questionnaire that requested details of, for example:

- the typical number of annual vacancies
- the 'soft' and 'technical' skills required
- what makes a failed interview and a successful one.

Very few read the degree content information, but their questionnaire responses indicated where the Department might consider modifying the structure of the degree programmes offered.

Nine organisations were visited between May 2006 and September 2008:

1. Weather News International, Aberdeen
2. Meteogroup (formerly PA Weather), London
3. FUGRO/GEOS. Wallingford
4. Met Office, Exeter
5. Merrill Lynch, London
6. British Antarctic Survey, Cambridge
7. Weather Services International, Birmingham
8. Aerospace & Marine Services, Banchory
9. Royal Navy, Portsmouth

## Employers' needs

Generally, the following topics were viewed as important, to a varying extent, by all employers:

- *passion for the weather* - this was seen as critical for a forecaster, to be genuinely and obviously driven by an interest in day-to-day weather. An absence of this was seen as a definite disadvantage
- *skilled interpretation of synoptic maps* - this is another very important factor that involves interviewees interpreting analysis (actual) and forecast weather maps 'on the hoof', including a knowledge of the

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variation and meteorological significance of topography across the British Isles

- *independence and team working* – these were both very important, with the former checked partly by map interpretation (above) and the latter by observing a group of interviewees undertaking a set task
- *initiative and self-motivation* – evidenced by, for example, interviewees having organised work-experience or having successfully organised paid employment during their degree
- *work under pressure/adhere to strict deadlines* – possibly evidenced by references and/or observation of candidates during interview tasks
- *assimilate information and make quick, accurate decisions* relating to available data etc.
- *assess and convey confidence/uncertainty in forecasts* to peers and to customers with varied backgrounds
- *good verbal and written communication* – both developed and examined during their degree programme
- *willingness to develop a business perspective* – will become apparent during an interview
- *listening and responding to customers' (including energy traders) needs.*

Clearly, not all interviewees will be able to display high quality skills in all these aspects, but they should at least show potential in those that they cannot demonstrate immediately.

## The impact

The prime aim of the project was to establish what 'employability' factors are seen as important by organisations that hire meteorologists, principally as forecasters. The lessons learned would then be translated into material that would 'enrich' the Part 2 'Skills for graduates' module by incorporating the completed employers' questionnaires onto Blackboard, but also by having the class discuss how, for example, they individually fit into the 'model' skills listed above. This started in the Spring Term of 2008 and will be developed further for the module in Spring 2009.

The very process of visiting employers face-to-face means that I have an invaluable personal link with recruiters, some of whom now give careers talks within the Department of Meteorology during

a Spring Term MSc module that is open to all students. Indeed, two of those visited came to the Department in June 2008 to interview students on-site; this is something we hope will continue.

The plan is to invite all contacts each year to a half-day/day presentation at the University to illustrate the wide range of pertinent research undertaken in the 5\* Department, on the day in June when the final year undergraduates show their project posters for assessment. Guests will be invited to view the posters and to vote in our annual competition for the best one.

## The future

One aspect of the CCMS Fellowship is to attempt to quantify if the visits and the lessons learned from them make our graduates more employable in the future. This will be monitored by graduate destination statistics from 2007's class onwards, and to poll graduates regarding whether the Part 2 module aided them in obtaining pertinent employment.

## Conclusion

The exercise of having visiting employers of meteorology graduates express both their views of the BSc Meteorology content and their 'non-academic' needs has proved profitable. Establishing a list of the characteristics of a successful candidate for a forecasting position has enriched the content of a compulsory Part 2 module that contains 5 credits related to careers. Academic and Careers staff now have a much better, 'realistic' knowledge of employers' wishes, while students appreciate the fact that time and trouble have been taken to make the module content relate directly to employers' views. And these views are that the qualities employers are looking for in successful candidates include both meteorological skills, and generic employability/professional skills. This process has boosted confidence on both sides of the lecture theatre.

In addition, personal contacts with employers will, over time, hopefully prove advantageous to Reading Meteorology graduates through invitations to visit the Department, and by routinely modifying the way in which the careers module is taught.

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