

# Job Seeking Skills for Engineers: the Use of Role play in a Learning Exercise

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**ABSTRACT:** This paper describes the use of role-play to enhance job-seeking skills. The role-play is part of a subject taken by third year electronic engineering students. The subject is designed to develop life-long learning skills, written and oral communication skills and job seeking skills all in an engineering context. The whole subject is based on the technical theme of the digital mobile telephone system. Throughout this subject the emphasis is on developing skills which will be useful to students throughout their careers, rather than the short term goal of completing the required assignments. In the job seeking skills component, the students all submit applications for a vacation experience position with a (fictitious) mobile telephone company. Students then role-play a selection committee. They read and rank applications written by other students. This is followed by interviews for some of the short-listed applicants. The job seeking skills component is a successful learning exercise because it consists of activities that deliberately cater for the full educational spectrum -concrete, reflective, abstract and active learners. The subject is highly successful both in terms of student evaluations and in developing the job seeking skills of students.

**Keywords:** generic skills/graduate attributes, student-centred learning/teaching and learning strategies

## INTRODUCTION

Many engineering courses do not take sufficient account of the broader dimensions of professional practice [1]. Not all graduates have the job seeking skills required to gain entry to the profession, or the lifelong learning skills required to keep abreast of rapidly changing fields [2].

This subject integrates and assesses both of these aspects in a technical context. The design of the job skills component draws on learning theory [3]. It is a core engineering subject, coordinated by an engineer, but draws on external expertise where necessary.

This paper focuses on the component of the course on job seeking skills and concentrates particularly on the role-plays. A factor that motivated the design of this component was the experience of the course supervisor, who is an

engineer. She was very aware of what she had learned about applying for jobs from being a member of selection panels - a knowledge that would have been invaluable earlier in her career. We used role-play techniques rather than lectures to impart this knowledge because experiential learning is known to be much more effective than didactic teaching [3].

## EVOLUTION OF THE SUBJECT

In 1995 a new telecommunications stream was introduced to the undergraduate Electronic Engineering degree at La Trobe University. A subject was included with the specific aim of developing the students' lifelong learning skills [4]. The subject was based on the technical theme of the digital mobile telephone system (GSM system) and taught in the third year of a four-year engineering course.

In 1999, to reduce student workload the lifelong learning subject was combined with an Engineering Management subject which covered oral and written communication and job seeking skills. The new combined course was taken by all of the four streams within the Electronic Engineering degree at La Trobe University: electronic systems, telecommunications, biomedical and optical engineering.

Although the new course resulted from a 'marriage of convenience', it works extremely well. The GSM mobile telephone system is used as the technical basis for the whole course. Each section of the course builds on and reinforces the earlier sections. The ability to pick out key facts and present them in a way that is relevant to the task at hand is important for lifelong learning, effective personal communications, writing a good job application and having a successful interview. Seeing a situation from the other side is crucial both in giving a good oral presentation and in making a successful job application. Critically evaluating your own performance and that of others is key to effective oral and written presentation skills and to making successful job applications.

The course is divided into four main sections:

- background information on the GSM mobile telephone system,
- how to find relevant technical information,
- how to present technical information,
- job seeking skills.
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With minor changes the first three sections follow the format described in [4]. The job seeking skills component is described in more detail in the following sections.

## **JOB SEEKING SKILLS COMPONENT**

### **Job Advertisement**

In this component the assessments are all based on applying for a vacation position with a (fictitious) mobile telephone company, (see Fig. 1 for advertisement). The wording of the advertisement has been drawn from recent newspaper advertisements. The position description has been designed so that all students can meet the selection criteria, but students have

to think carefully about how they can tailor their qualifications and experience to meet the requirements.

### **Introductory Workshops**

This section begins with two workshops on job seeking skills. Each is run jointly by the engineer and a careers professional. In the first the overall structure of this section of the course is outlined and the job advertisement is distributed. Basic information is presented about the recruitment process. The importance of tailoring your application to the position being applied for is emphasised. Information is provided about the differing values of academia and industry. Industry values communication skills whereas academia values theoretical knowledge. Students take part in an exercise which allows them to reflect on who they are and what their values are.

The second session covers more information about job seeking including web based recruitment. The resources provided by the La Trobe Careers Service are described and the session finishes with a visit to the Careers Service offices. This means that the students are fully aware of the services available and the hurdle of making the initial visit is overcome.

These two sessions give the students enough information to prepare their job applications. The aim is to give them the skills to write good applications in the future, rather than simply to produce a good submission for this exercise. This means that the students are given resources such as the handbook produced by the Career's Service [5] and references to useful information sources [6] rather than being given 'cookbook' guides for this exercise.

### **First Version of Job Application**

The following week, students submit their first attempt at the job application. Each student prepares two versions, one complete version, and one that has false names and contact details and contains only information which they are comfortable with other members of the class seeing. In recognition of the students' right to privacy and the ethical and legal responsibilities of the university, students are also given the

option of not having their applications seen by any other students. Fortunately, few students have chosen this option, as the exercise depends on having enough applications to short-list.

Confidentiality has been less of an issue for the students than we had anticipated. It is mainly the female students who opt out, probably because in an engineering class they form such a highly visible minority. The first versions of the application are marked only as satisfactory/non-satisfactory. An almost 100% submission rate has been achieved by allocating a significant percentage of the marks for submission, and by allowing no late submissions.

### **The Short-Listing Exercise**

Next, students take part in the short-listing exercise. The students are divided into groups of approximately six and each group has six applications to consider. These are arranged so that no student short-lists their own application.

The short-listing exercise lasts for two hours. For the first forty minutes the students work individually. This simulates the preparation a member of a selection panel would do before the panel meeting. They are given a checklist with the main selection criteria and are asked to fill this in for each applicant. Each candidate has to be ranked on each criterion with a note on the rationale for the ranking. The time allocated to ranking is deliberately kept short, simulating what is likely to happen in the real world. Although the students find this quite frustrating, it is an effective technique for communicating the message that first impressions are absolutely critical for job applications.

The next stage of the job selection process is to produce a short-list of candidates for interview. For the next thirty minutes the students work in their group to develop a ranked short-list of three applications. For most groups this involved lengthy discussion about the importance of different aspects of applications. One student commented that the group exercise “taught me how different people pick up different qualities about candidates”. Finally each group prepares and presents an overhead listing the good points of the best three applications considered by their group and points on which they could be

improved. We have been impressed by the insight demonstrated by the comments and the sensitivity with which suggestions for improvement have been made.

### **Final Version of the Application**

Out of class, in the weeks following the short-listing exercise, the students prepare the final version of their application. This is marked and detailed written feedback is given. Some students, due to pressure of other work, make no improvements to the initial version. Most of the changes which students make are in the covering letter and in tailoring the application to the position. They use more ‘action verbs’ and improve the structure and content of both the covering letter and the resume.

### **Workshop on Interview Skills**

The workshop on interview skills provided a mix of lecture format with small group exercises. The tutor introduced material on employer requirements, typical problem areas for applicants and the types of questions they should be prepared for. An exercise followed where the students working in small groups discussed and prepared responses to set questions. The groups were all expected to draw on their own experience. The tutor provided sample questions based on those asked by employers.

Following this exercise, students were introduced to the idea of interview ‘scripts’ including the sequence of question types to expect at each stage of the interview and a number of cultural issues. Many large companies use specialized psychology testing methods for applicants. As an example, students were introduced to *Targeted Selection*, which is based on the premise that once an interviewer knows what an applicant has done previously, they can accurately predict the behaviours, skills and decisions the applicant is likely to repeat in the future. There was some discussion on the importance of body language and what it can inadvertently communicate to the employer.

### **Mock Interviews**

For the last two years a number of short-listed candidates have taken part in mock interviews.

Each panel has been made up of practicing engineers, university staff members and students. It is important to have at least one experienced interviewer on each panel and at least one person unknown to students, usually the practicing engineer. This parallels a real interview where the interviewee has to make on-the-spot judgements about unknown interviewers.

Panels are briefed beforehand and given lists of possible questions to supplement their own favourites. One of the panel members acts as panel chair. Students who have not been short-listed and are not to be interviewed watch all of the proceedings. Each panel begins by discussing how the interviews will be organised and what questions will be asked by which panel member. In general the student member asks a technical question about GSM and other members ask more general questions.

The mock interviews work very well with both staff and students entering the spirit of the role-play. Questions from the applicant about the training programs of the (mythical) company have been answered in detail by the panel. At the end of the interview, the panel chair gives feedback about which questions each applicant answered well and how they might be able to improve in future. So far we have been fortunate in having panel members who have been able to give this feedback in a gentle but effective way. Although most of the students have been extremely nervous before their interviews, most have found it a very useful exercise and feel that it is good preparation for real interviews.

Each panel interviews three students. So the audience is able to see three different approaches to answering the same questions and judge what is most effective. One observed it is "Good to listen to other people's responses to the same question". The session completes with each of the panel chairs talking to the whole class and giving tips about good interview techniques.

So far we have been limited to interviewing a small percentage of the class due to the difficulty in finding suitable outsiders. However, this year we involved a number of general staff from the Faculty and next year we are considering asking the local Rotary club to help.

## REFLECTIONS ON STUDENT EVALUATIONS

There were three types of learning apparent in student comments – learning by observation, by reflection and by application. Comments that indicated learning by observation referred to the staff and the lecture component of the subject. For example, one student wrote 'work with professionals improved confidence'. Another student felt that 'lectures improved my ability to write applications and prepare for interviews'. The learning setting elicited a range of favourable comments such as 'relaxed interactive environment' and 'whole atmosphere where everyone worked as a group'. One observed that this was 'the best way of teaching'. Several students appreciated 'when we were given typical questions asked in the interview and put in groups to discuss answers for them'. The opportunity for direct observation of applicant behaviour was appreciated and commented on: 'it is easier to see what people do wrong in interviews when it isn't you being interviewed.'

Specific aspects of the subject component that were seen as a chance to apply learning were "the experience of being on the shortlisting panel", the opportunity offered by seeing a "lot of examples of how to write a CV and covering letter and mock interviews". Comments on learning by reflection included: [this exercise] "made you think about yourself" and another who discovered that "there are always more ways to ask questions and provide answers in interviews".

A number of students appreciated the practical application of this component of the subject. Some comments from the evaluation forms include: "having skills is no good if you can't get a job", "I learned what businesses expect from employees" and "interviewers have a short time to read CVs". The feedback was overwhelmingly positive with little doubt that the students enjoyed enhancing skills they are rarely given an opportunity to exercise in the rest of their studies.

The students' comments reflect the views presented in a recent keynote address to a careers conference [7] that modern generations prefer a "kinesetic learning style, they learn by action"

They wish “fun integrated into what we do”. The want to be more “vocationally oriented”.

## DISCUSSION AND CONCLUSIONS

The subject as a whole is popular with students and receives consistently high ratings on student evaluations of teaching.

A number of the skills that the students gain are measurable even before graduation. In recent years the standard of final year project reports and oral presentations has improved markedly and this can be attributed, at least in part, to this subject. Since the introduction of the integrated job seeking skills component, the employment rates for La Trobe engineering students have improved. Careers Service staff attribute this to this subject. They have also noticed a substantial improvement in the resumes that our students prepare.

The short-listing exercise has a number of benefits. The immediate and most obvious outcome is that by taking part and observing interviews, the students learn what to expect at an interview and how to answer typical questions effectively. It enables students to see the selection process from the employer’s perspective. Students learn the importance of highlighting the advantages to the employer rather than the employee. They realise that employers can devote very little time to each application, and therefore how important it is to make the application and in particular the covering letter, clear and to-the-point. Students grasp how important it is to state explicitly how they meet each of the selection criteria. They learn the importance of presenting the application in an enthusiastic positive tone. By seeing a number of other students’ applications, students pick up ideas about how they can present their own experience and skills in a more compelling way.

Introduction of the new component required a substantial amount of planning and preparation in the first year, but since then the overall staff workload has been comparable with a ‘normal’ lecture and examination based subject. More effort is required during the semester but this is offset later by having no examination to mark.

Throughout the course, a substantial proportion of the marks are allocated to aspects that are important to the successful running of the course, such as submission of the first application, attendance at the short-listing exercise and the interviews. This has meant that students devote time and effort to these aspects and do not neglect them in favour of other assignments.

The course has had a number of other benefits. It has allowed academic and general staff to work together on teaching rather than administration. It has provided a vehicle for involving practising engineers in the undergraduate course. This has resulted in some continuing industry-university interaction and some employment opportunities for our students. General staff from the Faculty have enjoyed being involved in the interview panels and have also learned from the experience.

In summary, the format has resulted in a course which is very successful in terms of student learning and which both staff and students thoroughly enjoy.

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Figure 1. Job Advertisement