

## Transferable skills for global employability in PhD curriculum transformation

### Abstract

Over the past twenty years, higher education has experienced greatly increased doctoral enrolments and corresponding changes in career destinations. Until recently, most graduates could expect to secure academic positions, but this career path is no longer assured or necessarily desired. For example, in the UK, only 14% of PhD students now secure an academic post, and only 19% of UK PhD holders were in higher education research roles three years after graduating. The increasing proportion and diversity of people holding a doctorate is leading to a transformation in how governments, employers, and degree holders themselves consider career possibilities for doctoral graduates.

This change in the doctoral demographic and concomitant employment possibilities has precipitated a focus on the development of generic (transferable) skills in addition to the PhD research content itself. Consequently, a range of researcher development programmes has been established, notably national initiatives such as Vitae in the UK and institution-specific initiatives. This expansion of focus has implications for curriculum, with employability as a key driver for what and how we teach doctoral students. However, in facilitating and achieving such curriculum transformation, students' views of how their experiences and learning have supported, enhanced, or hindered their career and life opportunities have seldom been sought.

This issue becomes even more pertinent when discussion is extended to the global sphere. The OECD average for international students in doctoral programmes is 24%, which includes traditional-type international students who travel to host countries to study. The number increases further when doctoral students in programmes designed in line with "international" standards, but taught by international faculty in a home country context, are added. What do these students consider appropriate preparation for their future employment in terms of transferable skills, and what challenges do they perceive when seeking jobs?

Using perspectives gained from an empirical study on transferable skills conducted with doctoral students in New Zealand and the experiences of curriculum transformation in a PhD programme in Kazakhstan designed in collaboration with strategic partners in the UK and USA, the presenters will engage delegates in discussion of doctoral curriculum transformation and transferable skills in a global context. Doctoral candidates are especially welcome at the round table to share their own experiences.

### Background

#### Training for what? Doctoral students' perceptions of doctorate education and employability

The goal of our research project was to address a gap in our knowledge about doctoral students' perceptions of their skill needs for employment. It included an online survey (Google Forms) and interviews with current and graduated students. Using a stratified random sample of Waikato doctoral students at three stages of study/career (pre-enrolment, one year prior to completion, and two years post graduation), it probed their perceptions and experiences of doctoral education and the employment market. We obtained HRE approval from the University and all participants did so on a strictly voluntary basis.

## Final Report

The purpose of this project was to deepen the understanding of the transferable skills that doctoral students are learning during their studies at the University of Waikato and their perceptions of the skills they would need for employment after graduating. The increasing number of doctoral graduates seeking employment outside academia strongly suggests a need for broader training beyond discipline-specific expertise (Carter & Laurs, 2014). Consequently, there is increased pressure on universities to reform their approaches to the doctorate so that graduates are equipped with the skills to secure suitable employment opportunities both within and outside academia (Kiley, 2014).

The project engaged with doctoral students at the University of Waikato to discover their perspectives and experiences of transferable skills. Data collection included an online survey and follow-up interviews with a selected sub-set of the survey respondents. The three research questions were:

1. What do University of Waikato doctoral students perceive as their needs in terms of transferable skills training?
2. What learning experiences do / did University of Waikato students expect to encounter during the doctorate?
3. What do University of Waikato students think is / would have been appropriate training for their future employment?

A self-selected sample of 82 doctoral students from the University of Waikato who were either conditionally enrolled, unconditionally enrolled, or graduated within the last five years, completed an online survey involving ten questions about skills that they are learning or have learnt. Questions also asked about students' career aspirations after the doctorate, gaps between the skills acquired and skills required, and skills that students felt are not useful. There were five additional demographic questions. Of the survey respondents, 13 were subsequently interviewed for 20-30 minutes to probe their responses in more depth.

Responses to the survey came from a range of all faculties of the university, from all age groups from 20-30 to 65+, males and females, and domestic and international students. Interviews were conducted with a diverse sample of these respondents. The skills most commonly identified by respondents as being useful for employment were communication, interpersonal abilities, public speaking, presenting, networking, and the ability to disseminate one's research to other academics, stakeholders, or the general public. One skill that was often labelled by respondents as being both a research-based skill and a non-research based skill was time management - specifically long-term time management as doctoral projects generally take much longer to complete than projects that are part of undergraduate or masters degrees.

Some interesting differences emerged between the experiences of students from different faculties. For example, some students from the Faculty of Arts and Social Sciences said that they had developed their interpersonal skills working in groups during their doctoral studies, while some students from the Faculty of Science and Engineering mentioned that they were mostly working on their own and had few opportunities to develop their interpersonal and communication skills. Certain topics of study appeared to involve certain skillset development opportunities, meaning that students in different faculties could have a very different experience of skill development.

Through the survey and interviews, an interesting point surfaced that commercialisation or industrial work opportunities lend themselves to some fields more than others; some students therefore felt that they had more opportunities open to them than others. For example, an engineering student said in an interview that students in their field can create businesses out of their research ideas. In addition, science and computer science students seemed confident that they could find work within industry as well as in academia, but doctoral students studying education or arts and social sciences perceived fewer future opportunities in industry and were more likely to aspire to an academic or teaching career. Overall, the majority of respondents were interested in an academic career, with the most popular career aspiration outside of academia being government employment.

Many students appeared to have an interest in participating in activities that they believed would further develop transferable skills. For example, many students mentioned that they try to attend conferences in order to develop their communication, networking, public speaking and presentation

skills, and to get used to explaining and discussing their research with others. It also became evident that personality differences and personal choice might be an important factor in whether or not the student engages with opportunities to develop their transferable skills. Many commented that they had developed particular skills solely due to a conscious decision to 'put themselves out there'.

The survey and interviews identified events and workshops that separate faculties organized for their doctoral students to share their work and support each other to develop skills, such as presenting to a group. Students said that they found these events helpful, however some expressed a desire to be able to attend joint events for doctoral students of different faculties to learn about what students in other areas are doing and possibly foster opportunities to collaborate. Almost all students felt that all the skills that they were learning would be useful for the future.

The opinions of respondents were quite evenly divided on whether employers would place more importance on research based skills or non-research based skills. A few respondents said that both types of skills would be equally useful in securing employment. About half of the respondents believed that employers would be only interested in the research skills that prospective employees had developed, as these would show that the graduate is qualified for the job. About half of the respondents, however, believed that employers would be most interested in the transferable, non-research based skills that prospective employers had, because earning a doctorate does not imply that transferable skills have been learnt in the process and employers want employees to have more to offer than the research based skills.

In future research, it would be interesting to progress a step further and explore what employers' perceptions of doctoral graduates' skills actually are and compare these findings to the students' perceptions in this study.

The results of this project were used to create a research poster displaying the method and findings, and are also expected to contribute towards a future article for the supervisors of the project.

## Data collection – questions asked of different cohorts

### Background questions

In which Faculty of the university are you enrolled?

- Arts and Social Sciences
- Faculty of Computing and Mathematical Sciences
- Te Kura Toi Tangata - Faculty of Education
- Te Piringa - Faculty of Law
- Waikato Management School
- Te Pua Wānanga ki te Ao - Faculty of Māori and Indigenous Studies
- Faculty of Science and Engineering

### Are you...

- An international student
- A domestic student

### What is your gender?

- Male
- Female
- Gender diverse
- Prefer not to say

### What is your age?

- 20-30 years old
- 31-40 years old
- 41-50 years old
- 51-60 years old
- 61+ years old

### Are you...

- a conditionally enrolled doctoral student?
- an unconditionally enrolled doctoral student?
- a student who has graduated with a doctorate?

<the survey form then branches to the appropriate questions for the type student/ graduate>

### Questions for those who have graduated with a doctorate

1. What types of research-based skills do you think that a student should develop during their doctoral studies?
2. What types of skills that are not research-based do you think that a student should develop during their doctoral studies?
3. What skills do you feel you did learn during your doctorate studies – both those you associate with research and those you might not directly associate with undertaking research?
4. Were the skills you learnt during your doctoral studies useful in finding employment after you graduated?
5. Are there skills that you learnt during your doctoral studies that you do not feel you are using since you completed your degree? Yes/No, if Yes please state which
6. What, if any, gaps do you think there were between the skills you learnt during your doctoral studies and the skills you needed to secure a job after you graduated?
7. How challenging was it to find a job after you had completed your doctorate?
8. What type of employment did you hope to secure after completing your doctoral degree?
9. What is the field of your current employment?

10. Would you be willing to be interviewed in January 2017 (in person or via Skype/Zoom) about your views on skills training for doctoral students?

**<if yes, the survey form then branches to a completely separate page>**

Please provide your email address so that we can contact you to organise an interview

**Questions for conditionally enrolled doctoral students**

1. What types of research based skills do you think that a student should develop during their doctoral studies?
2. What types of skills that are not research-based do you think that a student should develop during their doctoral studies?
3. What skills do you feel you are learning during your doctoral studies – both those you associate with research and those you might not directly associate with undertaking research?
4. Do you think that the skills you will learn during your doctoral studies will assist you in finding employment after you graduate?
5. Are there skills that you are learning during your doctoral studies that you do not feel you will not need once you completed your degree? Yes/No, if Yes please state which
6. What, if any, gaps do you think there might be in the skills you learn during your doctoral studies and the skills you will need to secure a job after you graduate?
7. How challenging do you think it will be to find a job after you have completed your doctoral studies?
8. What type of employment do you hope to secure after completing your doctoral degree?
9. Would you be willing to be interviewed in January 2017 (in person or via Skype) about your views on skills training for doctoral students?

**<if yes, the survey form then branches to a completely separate page>**

Please provide your email address so that we can contact you to organise an interview:

**Questions for unconditionally enrolled students**

1. What types of research based skills do you think that a student should develop during their doctoral studies?
2. What types of skills that are not research-based do you think that a student should develop during their doctoral studies?
3. What skills do you feel you are learning during your doctoral studies – both those you associate with research and those you might not directly associate with undertaking research?
4. Do you think that the skills you will learn during your doctoral studies will assist you in finding employment after you graduate?
5. Are there skills that you are learning during your doctoral studies that you do not feel you will not need once you completed your degree? Yes/No, if Yes please state which
6. What, if any, gaps do you think there might be in the skills you learn during your doctoral studies and the skills you will need to secure a job after you graduate?
7. How challenging do you think it will be to find a job after you had completed your doctoral studies?
8. What type of employment do you hope to secure after completing your doctoral degree?
9. Would you be willing to be interviewed in January 2017 (in person or via Skype) about your views on skills training for doctoral students?

**<if yes, the survey form then branches to a completely separate page>**

Please provide your email address so that we can contact you to organise an interview: