



GLASGOW  
CALEDONIAN  
UNIVERSITY

# The Glasgow Caledonian Researcher Skills Map Project

Project Outline as at October 2008

Prof Bonnie Steves, Director, Caledonian Graduate Centre

Calum Webster, Organisational Development

# The Glasgow Caledonian Researcher Skills Map Project

This document provides an overview of the Researcher Skills Map project and includes some initial preliminary interviews.

## ▪ Aim of the project

The aim of the project is to ascertain the skills and competencies of the effective and excellent researcher now and in the foreseeable future.

## ▪ Background

The Graduate Centre and the Department of Organisational Development at Glasgow Caledonian University are producing a competency framework for researchers (from research students to research leaders). The emphasis is on identifying the key skills, competencies and behaviours to be effective and excellent in the role of researcher.

## ▪ Outputs

The research will produce a competency framework for researchers: from research students to researchers to research leaders. The framework will identify the range of skills, competencies and behaviours needed to be an effective and excellent researcher. These skills, competencies and behaviours will be identified for the range of activities that a researcher might normally be engaged in. Thus the scope of the framework will range from research topic area specific related skills, to relevant, generic skills developed while doing research, to other skills developed as the result of being engaged in other activities such as teaching, mentoring, supervising and entrepreneurship.

## What the framework, or map, might look like

At this stage it is not possible to specify the exact nature of the framework. However, Figure 1 below, which including data from initial work on the project, provides illustrative content and layout of the framework:

**Figure1: Illustrative content and possible layout and presentation of the framework**

	<b>Strategic thinking</b>
Level 3	<ul style="list-style-type: none"> <li>• Connects researchers to provide a robust, long-term research vein</li> <li>• Creates the research niche or topics</li> <li>• Shapes the thoughts and research of others</li> <li>• Develops a valuable research thrust with intellectual depth and breadth</li> <li>• Creates the focus and direction of their fields of interest</li> </ul>
	<ul style="list-style-type: none"> <li>• Pioneers new areas of research and new topics of research</li> </ul>
Level 2	<ul style="list-style-type: none"> <li>• Creates own research niche and area of specific interest</li> <li>• Tracks and anticipates the priorities of funding bodies</li> <li>• Scans political and financial climate relevant to research area</li> <li>• Uses knowledge of stakeholders to inform research strategy</li> <li>• Spots potential opportunities for collaboration with other researchers</li> <li>• Knows the research focus and direction of their discipline/areas of interest</li> </ul>
	<ul style="list-style-type: none"> <li>• Picks up on emerging research areas</li> </ul>
Level 1	<ul style="list-style-type: none"> <li>• Formulates significant and achievable research question(s)</li> <li>• Sees the long-term direction of their research focus</li> <li>• Observes developments in their field</li> <li>• Knows the research focus and direction of the research unit and the University</li> </ul>

# The Glasgow Caledonian Researcher Skills Map Project

## Uses of the Researcher Skills Map

The researcher skills map will support in the recruitment, selection, personal development and career development of researchers in Glasgow Caledonian University. It will support succession management and talent management strategies plus other endeavours to support the career development of researchers within and amongst Universities and other environments.

### It will help researchers to

- Focus proactively on their talents to play to their strengths.
- Identify priority areas for development to be more resource-efficient and more effective in their development
- Develop themselves as researchers and other possible career futures
- Attain a full picture of skills and behaviours required and why they are important to a range of stakeholders
- Commit to continuous improvement, equality and diversity and other leadership values
- Remove the “mystery” of the researcher skill set
- Learn the importance of providing results for stakeholders.
- Develop themselves in future-oriented, stakeholder-informed skills and competencies.

### It will help expert researchers and research leaders to

- Mentor other researchers
- Enhance strategies and approaches to developing researchers
- Recruit and select researchers
- Construct balanced research teams

### It will help in the development of researchers in terms of

- Designing effective and efficient learning experiences
- Use a common language across Universities to promote sharing of good practice
- Offering a supplementary tool that can help a variety of cultures and backgrounds learn skills in an unfamiliar environment
- Constructing career development tools and interventions (eg identifying transferable skills and how these are used and applied in other contexts such as industry)

#### ▪ **Method**

The method has four main components: data gathering, data analysis, framework compilation and framework validation.

**Data gathering** will mainly involve a number of structured and semi-structured interview techniques adapted from job analysis, appreciative inquiry, personal construct theory and specially adapted interview techniques including critical incident . It is likely that online questionnaires will be used to gather data. Interviewees will initially be proposed by Bonnie Steves. Interviews will be conducted mainly by Calum Webster.

**Data analysis** will involve qualitative analysis of the interview notes using a generic structure to cluster interview outputs. Numerical analysis of outputs will require statistical analysis. It will be important to have formative checks

## The Glasgow Caledonian Researcher Skills Map Project

on outputs at this stage of qualitative and quantitative natures (using online questionnaires). In short, experts will be asked to comment upon, and numerically rate, initial findings.

**Framework compilation** will require expert input and “quality control”. This process will use techniques similar to some of those in the data gathering and data analysis components.

**Framework validation** will be short-, medium- and long-term. Short term will be mainly qualitative feedback from users and will require careful consideration of feedback (rather than knee-jerk reactions). Medium to long-term will involve qualitative and quantitative evaluation. This will involve a range of experimental designs.

### ▪ Timescales

The bulk of initial interviews will be completed by the end of this calendar year. At that point, the data gathered will be examined and the project will be scoped to aim for completion by summer of 2009.

### ▪ The research team

**Calum Webster** is a psychologist with over 15 years’ experience of working with competencies. He has personally constructed competency frameworks in a variety of contexts (public, private and third sector) for a diversity of roles including sales, administration, programme management, team leaders and directors. For example, his book *Approaches to appraisal: a handbook for the effective board*, contained a bespoke competency framework for board members - original work constructed solely by Calum. This competency framework has been reprinted, without enhancement, this year for continued use.

**Professor Bonnie Steves** has 20 years’ experience in supervising and leading on research projects in Astronomy and more recently Research Graduate Education. She is currently Professor of Mathematical Astronomy and Director of the Caledonian Graduate Centre, Glasgow Caledonian University (GCU). The Graduate Centre has University-wide responsibility for ensuring the academic quality of research student education and for providing leadership and support in the development of postgraduate taught Masters, research students and staff in their research career development. Previously, she was the Associate Dean of Research and Knowledge Transfer for the School of Computing and Mathematical Sciences at GCU, responsible for the School’s research, income generation, knowledge transfer and commercialisation activities. She has also directed four and been involved in the organization of eight international Advanced Study Institutes for researchers in Astronomy since 1987. As the sole permanent member of staff in her RAE2008 unit of assessment, Prof Steves was the only small group entry in the UK in Applied Mathematics to receive a world class (4\*) and international excellence (3\*) rating, with 5% research output rated at each of these top class levels.