Skills at Masters' level in Geography Higher Education: teaching, learning and applying

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Abstract

The perceptions of 'skills' at taught Masters level between course directors (teaching of skills), alumni (learning and use of skills) and employers (the skills requirements) were compared within the field of development and environment. The findings underline the importance of peer learning, both within and outside the class setting, and also some discrepancies between what is taught, what is used and what is required in terms of skills. In light of the growing numbers of taught Masters courses, the paper also highlights the lack of pedagogic literature on taught postgraduate level teaching and learning, and the need for support for staff development programmes.

Context and rationale

Postgraduate taught courses are one of the fastest growing markets in the UK higher education sector (Sastry, 2004). Concurrently with the national trend, there has been a steady increase in taught Masters programmes within the geographical and environmental sciences fields (Eastwood, 2005). Despite the growing importance of taught Masters programmes to institutions, the majority of postgraduate policy developments and publications have been targeted at postgraduate research students, with little emphasis on taught Masters level (Sears, 2005). However, there is a growing recognition across UK higher education institutes that taught Masters programmes in geography, earth and environmental science subject areas need to harmonise the traditional intellectual competencies of the 'academy' with training and professional development. Skills development is central to this, and yet there is a lack of national consensus about what taught Masters level courses in this field should include in terms of skills.

At the Royal Geographical Society - IBG 2003 annual conference, the Society's Higher Education Research Group identified taught Masters level courses and skills development as a key area for research and discussion, reinforced at a recent GEES Subject Centre workshop (June 2004) and subsequent publication (*Planet*, 2005, Issue 14). Within this remit, we need to consider why there is often conflict between what students, staff and employers perceive as 'real world' skills and the changing body of students (Owen, 2001). There are increasing numbers of mid-career practitioners requiring continuing professional development, as well as career changers (Mills, 2004). Many of these applicants to Masters courses do not have first degrees or the equivalent. Therefore, there are growing numbers of students at Masters level who do not have academic backgrounds and the associated skills which were previously assumed. As increasing numbers of students are studying in a language other than their first language, their understanding of the ground rules of academic work and the skills needed will be closely bound up with their understandings of, for example, the position of the student and tutor within the learning process, the nature of 'knowledge' and the purpose of Masters study. All these will be constructed culturally and will vary considerably (Stierer, 1998).

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Within this context, a GEES Subject Centre small-grant project was funded to compare perceptions of 'skills' at taught Masters level between course directors (teaching of skills), alumni (learning and use of skills) and employers (the skills requirements). Two of the authors are involved in the implementation and development of Masters programmes in their departments, both within the geographical teaching domain of Development and Environment. As such, the project focused on Development and Environment taught Masters programmes. This paper presents some of the project's main findings.

First, we need to establish what we mean by the teaching and learning of Masters (M) level 'skills'? A 'level' is defined as an indicator of relative intellectual demand, complexity, depth of study and learner autonomy (Gosling and Moon, 2001). Skills include cognitive and intellectual skills, such as evaluation, synthesis and analysis, and key or transferable skills, which include group-working, communication, and information management. Put together, these form 'level descriptors', which are generic statements describing the characteristics and context of learning expected at each level; learning outcomes and assessment criteria can be reviewed against these in order to develop modules and assign credit at the appropriate level (Gosling and Moon, 2001). Although there is debate over what is M level, institutions have developed their own M level descriptors, mainly based on the SEEC (the higher education consortium for credit accumulation and transfer) and Quality Assurance Agency (QAA) level descriptors (see Table 1 overleaf for an adaptation of the SEEC level descriptors).

Methodology

In this study, we explored which 'skills' are taught, learnt, used and required at taught Masters level. The project was divided into two phases: the first phase involved a literature survey on the topic of Masters level teaching and learning across the whole higher education sector, and compiling a database of both taught Masters programmes across the UK in the field of Development and Environment and potential employers from these courses. Secondly, we identified and contacted various course directors and employers for face-to-face interviews (see Table 2 overleaf). In addition, two focus groups (each with six participants) with alumni from the MA/MSc Development and Environment

Table 1: The list of 'skills' used as a basis of discussion with the three study groups (Derived from SEEC descriptors, see Moon 2002).

Cognitive and Intellectual Skills (generic)

Analysis Evaluation Synthesis

Key/Transferable Skills (generic)

Group working:
Team and group working
Leadership
Negotiation
Conflict management
Task-centred working
Adaptability
Empathising
Networking
Political awareness

Practical skills:
Technical expertise
Numeracy
Research techniques

Self evaluation & promotion:
Self awareness
Self motivation
Reflection on personal development
Self critical
Self confidence
Challenge opinion
Respond to feedback
Reflect on own and others' functioning

Management of information:
Information gathering
Information handling
Interpreting information
Evaluating information
Referencing

Autonomy:
Ability to learn independently
Management of own learning
Time management
Responsibility
Supportive of others

Communications:
Report writing
Oral communication
Presentation
Use of IT
Debating
Consulting

Problem solving:
Identification/definition of problem essentials
Action Planning
Decision making
Coping with uncertainty
Initiative and originality
Ethical awareness

Table 2: The study groups for phase two of the project and an outline of the themes explored with each group

Study group	Themes explored
Course directors: Brunel University, (Geography and Earth Sciences), MSc Environment and Culture Forum for the Future, Masters in Leadership for Sustainable Development Institute of Commonwealth Studies, MA in Human Rights Imperial College, (Centre for Environmental Policy), MSc Environmental Technology King's London (Geography), MA Environment and Development Reading University (International and Rural Development), MSc Environment and Development University of Greenwich (Department of Earth and Environmental Sciences), MSc Environmental Conservation	Skills students arrive with The types of skills taught and assessed on the Masters courses, both generic and domain specific Prioritisation of skills in the Masters programmes
Employers: Dolores DeMercado, Human Resources, Consumers International Emma Barfoot, Human Resources, Greenpeace Debbie Ovenden, World Wildlife Fund, Nick Greenwood, Human Resources, International Institute for Environment and Development Michael Begley, Projects and Service Development, Westminster Council Adrienne Watson, Human Resources, Overseas Development Institute Dinah Langley, Manager, Kings College Careers Centre, University of London Liz Wilkinson, Head of Careers Service, Royal Holloway, University of London	Key skills employers look for in Masters graduates
Alumni: MA/MSc Development and Environment, Department of Geography, Royal Holloway	How both generic and domain specific skills were learnt during Masters programmes Which skills were used in the workplace

programme at the Department of Geography, Royal Holloway, were undertaken. The themes explored with each group are identified in Table 2. A table of 'skills' adapted from the SEEC* level descriptors (see Table 1) was used with the course directors and the employers to focus discussions and to assess the relative importance of these skills to those groups.

The teaching of skills: the perspective of taught Masters course directors in the Development and Environment domain

There is an increasing focus on skills development within Masters programmes in the Development and Environment domain. All the Masters course directors we spoke to viewed skills training as a key element of their course. However, more emphasis is put on certain skills (see Table 3). Cognitive and intellectual skills, writing skills, and researching skills, such as information gathering and handling, are highly prioritised by most course directors. These skills are also the ones more frequently assessed summatively through written exams, essays and dissertations. Course directors also saw communication, problem solving and self reflection as important, but these were more commonly assessed formatively. Low priority for most course directors were numeracy and leadership skills. Table 4 lists some of the domain specific modes of teaching, learning and assessing skills developed within Development and Environment Masters courses.

Table 3: Prioritisation of skills taught in Development and Environment Masters programmes

High Priority Skills	**Views of Course Directors**
Cognitive and intellectual skills	Analysis, synthesis and evaluation skills were rated highly. 'The skills that are needed at a Masters level are very different to those at an undergraduate level. A Masters is much more conceptual and theoretical and not as descriptive'.
Management of information, including gathering and handling of information and referencing	'Students must learn how to gather data, both primary and secondary, and then be able to critically evaluate that data'.
Writing skills	'Joined up thinking' must be developed by getting students to carefully structure their written work. Critical writing - the ability to write with evidence - is prioritized.
Communication skills	General oral communication and presentation skills are important. Most courses, at some stage, require students to present their work to their peers, either individually or in groups.
Problem solving skills	Identification of problem essentials, initiative and originality were highly rated.
Autonomy	Students should learn independently and be able to manage their own learning.
Self-motivation, self evaluation and promotion skills	Self- reflection is key to student development. 'Students must be encouraged to self-reflect on their learning experience throughout the year'.
Low Priority Skills	**Description**
Numeracy	Received low ratings and seen by several convenors as 'not important'
Leadership	Low priority by all directors, except Forum for the Future

Table 4: The Development and Environment domain specific modes of teaching, learning and assessing skills

- Non Governmental Organisation (NGO) practitioner skills
- Writing funding proposals
- Campaign design and implementation
- Lobbying
- Facilitation
- Project cycles – project development, proposal writing, management, monitoring and evaluation
- Experience of working on development issues in developing countries
- Consultation reports

The learning and use of skills - the perspective of alumni in the Development and Environment domain

How were skills learnt during the Masters programmes?

Developing critical thinking and critical writing skills was seen to be inherent in the Masters programme (see Table 5). Being able to disagree within discussions was also seen as important. Interestingly, all alumni emphasised the importance of developing critical skills through interaction with their peers, many of whom came from very different cultural backgrounds, and in many cases, this occurred outside the classroom setting. Most alumni felt that there was a general accumulation of intellectual skills and knowledge from the start to the end of the Masters programme which was quite different to the rapid learning experiences once they were in the workplace.

The dissertation was highlighted as a key experience in the accumulation of skills. Formulating proposals, developing contacts, looking for literature, carrying out research, and then analysing and writing up results helped to reinforce skills acquired from other parts of the Masters programme, such as the knowledge-based and research training elements. The dissertation, and in particular the field experience of the 'real-world', was also seen as the context in which skills of dealing with 'messy' and new situations were acquired. The autonomy of learning during the Masters programme also helped to develop a whole range of personal skills, noted by the alumni to include self motivation, confidence, self reflection, initiative and cultural sensitivity. Ethical issues that were taught to them during their research training made many immediately sensitive to cultural issues and situations in their jobs.

Table 5. Quotes from alumni about their learning experiences

'Being critical came from the experience of doing it [the Masters]. Just the fact that you spend a year or eighteen months doing stuff that challenges you, gives you a whole new way of thinking about things'.

'One thing I … remember from my Masters experience is sitting down with the other people in my course in a pub or wherever, and talking on a quite intellectual… level, which I hadn't really experienced at my undergraduate level, which I really appreciated, 'cos I felt like here's a group of people who actually want to study, who want to study the same issues and area as you.'

'What I think is still with me is that ability to be self-reflective, and to stand back and look at the issues ... which I think I got mainly from my experience in the Masters.'

'I learnt very little [in the Masters programme] about very basic things like putting together presentations, writing reports, analysing reports and project management skills'.

'[In the workplace] the ability to be very succinct in what you're saying is a turnaround from the detail needed at Masters level'.

Which skills were used in the workplace?

The critical awareness gained through the Masters programme was essential in all workplace settings. The skills learnt during the dissertation process were certainly highlighted, and included being able to gather and interpret information, working independently and personal skills such as initiative and confidence. Alumni felt that the skills of adaptability and the ability to deal with new complex situations gained during the Masters programme were essential for their jobs. Alumni would have liked more of this 'real-world' experience through opportunities such as volunteer work and placements, to understand how organisations 'work' and to relate their theoretical knowledge to practical examples.

Alumni agreed that a suite of key/transferable skills could have been developed further in the Masters course. Communication skills and writing in different ways and to a range of audiences are now a key element of their jobs as is numeracy. Most alumni recalled development in numeracy during their Masters as 'scant', 'don't remember' or 'not practical at all'. Yet many had to develop proposals with financial costings, manage large budgets and/or work with understanding and interpreting spreadsheets. Alumni felt that it wasn't necessary to directly teach skills of communication and numeracy, but that they could have been incorporated within the course through assessment e.g. doing written work in different formats such as proposals, briefings and speech writing. Finally, most alumni had, at some point in their jobs, to work in teams. They identified group-working skills as an area in which further practice at Masters level would be of benefit.

The skills requirements - the perspective of employers in the Development and Environment domain

The competition for employment in the Environment and Development field is very high. Every employer we interviewed described the large number of highly-qualified candidates they receive applications from when recruiting. For entry level roles, typically sought after by recently graduated Masters students, the application numbers are well beyond other industry norms. Many posts advertised in the organisations we spoke to did not require a Masters degree, but in reality most employees would have a Masters degree and this is seen as an advantage when applying for a post. Table 6 highlights some of the skills that employers in the Development and Environment domain look for. High priority skills include cognitive and intellectual skills, research skills and team working.

A comparison of academic co-ordinators', alumni and employers' perceptions of skills in the Development and Environment domain: emerging themes

Based on a rating system used in our survey, we can roughly assess the importance of the skills to the different groups, and therefore the results are used to identify themes which will require further in-depth investigating.

Firstly, course directors are putting more emphasis on cognitive and intellectual skills of analysis, synthesis and evaluation, rather than those expected by employers. This was stressed by alumni who clearly saw skills such as critical thinking, critical awareness and critical writing as core to their Masters experience. However, what is notable is the emphasis by alumni on peer learning in the development of critical thinking skills, as well as the recognition that much co-learning (Le Heron *et al.*, 2005, cited in McEwen *et al.*, 2005) takes place outside the classroom environment.

Table 6: What do employers look for in a Masters graduate?

High priority	Employers' perspective
Cognitive and intellectual skills	'A candidate must demonstrate the ability to reason and understand the logic behind their choices…a questioning mind is essential to effective work'.
Research skills	'The research you conduct before starting a campaign will form the basis of all your following work. You cannot progress without it'.
Team working	Team work was seen as 'essential' because staff need to 'share each others' knowledge and skills' and 'work collaboratively to deliver projects'.
Communication skills	Presentation skills are frequently used for influencing decision-makers, running campaigns and attracting funding. Writing skills are needed for report writing, funding proposals, speeches and media briefings and as an influencing tool.
Relevant work experience	Internships, volunteer work or placements show students have an understanding of the work environment, have taken initiative and are motivated for the right reasons.
Field trips	'Field trip experience would make a difference to our assessment of a candidate. We are looking for people who have spent time in the 'real world' and worked in real life situations in development…This gives them relevance.'
Problem solving skills	Innovation and originality are important in problem solving where staff need to find solutions to ongoing challenges, develop strategies to change mindsets, or have an entrepreneurial spirit.
Adaptability	Staff must be flexible and open to change: projects can change direction or funding may be redirected. Some organisations function in fast paced environments where external political priorities may be shifted. Staff seldom stick to working in their area of expertise
Personal skills	Self motivation, or a passion for what you do, is essential in an area that is often not well remunerated. Empathy and cultural sensitivity, networking and political awareness are useful skills.
Management skills	The ability to work to a deadline and time management skills are important, especially where staff work autonomously. Project management skills are essential where staff must plan the allocation of resources.

Within the practical skills, numeracy stands out as having a large discrepancy between course directors and employers. Furthermore, the importance of being 'financially literate' to employers was substantiated by the alumni, many of whom pointed out the day-to-day interaction with budgets, spreadsheets and financial costings. However, alumni did point out that the need for numeracy and financial literacy was only realised once they were in the workplace. The problem in many Masters courses is that aspects of numeracy are often delivered as stand alone modules on 'statistics' or the like, leaving students with little experience of the relevance of numeracy to development/environment work.

Another group of skills where we see more emphasis from employers compared to course directors is that of communication skills. Oral communication, presentation, use of IT, debating and consulting are all viewed by employers as essential skills in the workplace. This is supported by the alumni who all noted the everyday use of these skills in their jobs, and the need for more opportunity to practise these skills in Masters programmes.

Of the group-working skills, employers give higher ratings than course directors to two aspects, namely team- and group-working and adaptability. As alumni indicated, team working is a part of everyday life in most workplace environments, and being able to deal effectively with people is vital. Adaptability - the ability to deal with new situations and be flexible and responsive - is also crucial in many job situations. Although rated as 'important' by course directors, we saw little evidence of explicitly giving students the opportunity to develop their 'adaptability' skills within the programmes. Alumni felt the dissertation process is probably the place where these skills are most nurtured, but many course directors saw the dissertation

more in terms of developing cognitive and researching skills. Recognition of the honing of students' adaptability skills during the dissertation process could be ascertained by, for example, the use of reflective diaries, already used in some of the Masters programmes included in the study.

Of all the skills listed in Table 1, the ones that were consistently low priority for most course directors and employers were leadership, negotiation and conflict management. For employers, the feeling was that since Masters graduates entered the organisation at relatively junior positions, leadership skills and other skills associated with senior management (such as negotiation and conflict management) were deemed to be unnecessary and sometimes counterproductive for those positions. There is clearly a tension between employers' requirements for individuals to team work, adapt and communicate, while at the same time not taking roles in leading and negotiating. Yet, the field of Development and Environment recognises the need to change existing practices. There is also a danger in focusing too much on employability. As recent papers have argued (e.g. Martin and Jucker, 2005; Wellens *et al*., 2006), a central role of geography is the promotion of social transformation and sustainability, and in this respect, skills in critical awareness (cognitive and intellectual), leadership and negotiation should be promoted at Masters level.

Conclusions and recommendations

- We have found there is a lack of pedagogic literature on taught postgraduate level teaching and learning. As Green *et al*. (1999) and Kneale (2005) point out, there is little to support academics and teachers developing and managing Masters programmes. In addition, very few staff development programmes within universities deal specifically with taught postgraduate teaching and learning (see Leeds University for one example, Kneale, 2005). Of eleven staff development officers contacted in UK universities none provided any specific Masters level provision within learning and teaching programmes for staff.
- Numeracy is a skill which is in high demand by employers yet almost neglected within Masters teaching in Development and Environment. For practical skills such as numeracy and financial literacy, skills development must be placed firmly within the subject being studied. Students are then likely to both get a better and more practical grasp of the subject and also to learn and apply it in a work environment.
- Communication through a more diverse range of outlets, including speech writing, media briefings, needs to be developed. Many of the roles Master's students will have to embark on after they complete there studies will require them to manage a piece of work. Although many Master's programmes do include skills such as time management and action planning, explicit training on the process of managing a piece of work or project may be helpful. Thus, there needs to be more training in communication and management skills.
- Students must be given the opportunity to learn from peers (McEwen *et al*., 2005) and, through group- or team- working, peer learning outside classroom settings can be encouraged.
- Adaptability and the ability to deal with new complex situations is important in a work environment and should be fostered in a Masters course. There are significant opportunities to deliver this teaching through dissertations by, for example, using reflective journals.
- There are a range of skills including leadership, negotiation, conflict management, empathising, political awareness and ethical awareness, that are essential within the Development and Environment working environment that should be promoted in Masters programmes.

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