NAPIER UNIVERSITY BUSINESS SCHOOL

SCHOOL OF ACCOUNTING & ECONOMICS

EDUCATIONAL RESEARCH PAPER SERIES

Vocational Skills Development in the Undergraduate Accounting Curriculum: An Opinion Survey of Students and Lecturers

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RPE 01/2006 March 2006

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ABSTRACT

Vocational skills development has become more prominent in higher education institutions largely as a result of recent government policy documents. Over the last 15 years, professional accounting bodies and practitioners have criticised accounting education as being outdated and in need of overhaul. They argue that accounting educators have failed to restructure the accounting curriculum to equip graduates with the broader set of skills they need in the contemporary business environment.

This paper reviews the literature on vocational skills in accounting education and identifies a common set of skills important for the professional accountant. Using a vocational skills inventory, an opinion survey is carried out to identify student and lecturer perceptions of the importance and development of vocational skills in an undergraduate accounting degree at a Scottish University.

The results of the survey are analysed using a strategic mapping technique which shows that priority ought to be given to development of verbal and written communication, problem solving and time management skills. The paper considers the implications for curriculum development and the analysis highlights some of the complexities and difficulties associated with skills development. The paper concludes with a challenge to educators to resist a 'functional competence' approach in favour of a 'capability development' approach to vocational skills.

Key words: Accounting education; vocational skills; competence; curriculum development

Section 1 Introduction

Over the last twenty years there has been considerable debate in higher education regarding vocational skills. A number of terms have been used rather loosely, sometimes interchangeably, conveying similar but not always the same meaning e.g. core skills, key skills, generic skills, transferable skills, employability skills (Tribe 1996, Scott,1997, Bennett et al, 2000). The government through its various departments of education has advocated the merits of education for employment (Enterprise in Higher Education, 1989; DTI, 1994; Industry in Education, 1995; Dearing 1997; DfEE, 1998). Employers in the UK have expressed concerns that young people emerging from higher education do not have the skills that employers need (CBI, 1989, 1995). Academics continue to debate the merits of liberal and vocational education (Barnett, 1990 &1994, Whitston 1998). However, education for the professions has long been aware of its dual purpose, having both academic and vocational aims for its undergraduate provision.

There have been a number of studies carried out by academics and the accounting profession which suggest that the education which accounting graduates get today is outdated and in need of an overhaul (American Accounting Association 1986, Arthur Andersen and Co. 1989, May et al 1995, Morgan 1997, Albrecht & Sack 2000, Gabbin 2002). A common theme arising from the literature is the need for greater development of vocational skills and a movement towards an expanded set of competencies beyond the technical skills typically taught in accounting degrees. This paper focuses on the importance of vocational skills and their development within accounting degrees from the perspective of students and academic staff. The paper is informed by a similar study carried out by Arquero et al (2001) which considers the opinions of employers on the importance of and levels of skill exhibited by new graduates and recently qualified professional accountants.

The main contribution of this paper is an opinion survey which has two specific aims: first to identify perceived capability gaps between vocational skills which are regarded as important but underdeveloped; and second to

identify similarities and differences of opinion of students and academic staff on the above in order to inform the development of the undergraduate accounting curriculum. This paper explores the 'internal' perspective (students and lecturers) on development of vocational skills thus offering a direct comparison to the external (employer) perspective of the Arquero study. Consistent findings will add weight to the case for curriculum reform and differences will highlight areas requiring further examination or explanation. The scope of the survey is limited, it was carried out at one Scottish University, therefore the results provide a basis for developing priorities and informing curriculum design rather than making exaggerated claims for changes to the national undergraduate accounting curriculum. The paper also discusses a number of difficulties associated with the development of vocational skills and argues for a general approach rather than specific detailed changes.

The paper is organised as follows: section 2 provides the context for the paper and argues that the academic discipline is particularly important in determining the importance of specific vocational skills. The section begins by giving a brief review of the vocational skills literature but its main focus is on accounting education and an examination of the academic and professional literature. It concludes with a discussion of the vocational skills required of the professional accountant.

Section 3 begins with an explanation of the construction of the opinion survey and how it was conducted. The results of the survey are analysed using a strategic mapping technique and some development priorities are identified. Section 4 discusses the implications for the accounting curriculum and recognises some of the possibilities and difficulties of responding effectively to the findings. The conclusions of the study are summarised in section 5.

Section 2 Vocational Skills

This section begins by considering what is meant by vocational skills. The importance of academic discipline is emphasised and the discussion then focuses more specifically on accounting education and vocational skills. The section concludes with an explanation for employing the vocational skills inventory in the opinion survey described in section 3.

One of the initial difficulties associated with any study of vocational skills is the variety of terminology used in government policy documents and academic literature. The terms used include common skills, core skills, generic skills, key skills, transferable skills, vocational skills, employability skills, competencies, metacompetencies, etc. Whitston (1998) attempts to distinguish between core skills and key skills arguing that core or common skills implied that certain skills are found in all (or at least many) programmes of education and training which are otherwise quite different, whereas key skills are those skills which their advocates think that graduates are most likely to need for life and work. However, he goes on to argue that transferable skills is often used interchangeably with key skills. Similar problems are recognised by Holman & Hall (1996) who identify inconsistent usage of competence terms. Whatever the term, it appears that two themes, vocationalism and transferability, dominate the literature.

Perhaps more importantly Whitston (1998) considers what we want these skills for. He suggests they

> "compensate for narrowness and early specialisation in schools, establish links between academic and vocational courses, provide transferable skills to complement subject knowledge, ensure a place for personal skills, and meet the needs of employers for vocational relevance" (p.317).

It is clear from the attention which they have received that vocational skills are an important part of the undergraduate curriculum.

It is also acknowledged that these skills are complex and continually changing. For example, Lea and Street (1998) examine student writing, moving away from the skills-based approach to consider the complexity of writing practices taking place at degree level in universities. They use the concept of academic literacies as a framework for understanding university writing practices. In their analysis they recognise the numerous changes which have taken place in higher education and the further challenges of increasing numbers of non-traditional entrants.

There are many difficulties associated with reaching an agreed understanding of vocational skills. This paper focuses primarily on non-subject specific capabilities and skills e.g. communication skills, problem solving skills, interpersonal skills. However, there are important issues relating to academic discipline which require to be considered carefully.

The importance of discipline

There are a number of authors who identify discipline as an important factor in determining the relevance of particular vocational skills (Prosser & Webb, 1994; Barnett, 2000; Becher & Trowler, 2001; Neumann, 2001). Barnett (2000) notes:

> "On the one hand, while there may be characteristics of curricula that are generic to disciplines, it would be uncontroversial to suggest that some characteristics are at least discipline-specific. Furthermore, some disciplines could be sets of activity largely distinct from the world of work whereas others derive their locus from activities in the world of work (including the professions)" p.256.

Accounting is essentially seen as a vocational discipline. Many students choose to study accounting because they expect to pursue a career in business or more specifically as a professional accountant.

A recent paper by Neumann et al (2002) offers an organising framework for undergraduate teaching and learning and distinguishes between hard pure, soft pure, hard applied and soft applied fields of study. In their discussion of

cognitive purpose, they note that "the vocational nature of most applied programmes leads to a clear expectation of their subsequent employment opportunities", (p410), but that hard applied fields of study in contrast to soft applied seldom claim a need for the development of widely transferable skills.

It is possible, although not necessarily easy, to classify accounting within this framework. Accounting is certainly 'applied' but it has both 'hard' and 'soft' aspects. Accounting programme teams at different institutions will have varying views of where accounting sits within the Neumann framework. Even different members of staff responsible for module content, delivery, and assessment will have different perspectives on the nature of the academic discipline of accounting and its aims and objectives. What is clear however, is the importance of disciplinary context.

The potential complexity of this area is illustrated by the fact that discipline affects individual vocational skills and not just broad categorisations. Prosser & Webb (1994) argue that students' conceptions of essays vary according to the discipline. They assert that

> "written texts are of critical importance in shaping academic careers" and "the subcultures of each discipline ….. determine different epistemological approaches, and distinctive ways of thinking. The student, in learning how to write appropriately for each discipline, is actually embarking on a process of initiation into the culture of that discipline…" (p. 126).

Accounting education and vocational skills

Over the last thirty years accountancy has become a recognised university subject although, as noted above, it is essentially a vocational discipline. Despite the fact that all trainee chartered accountants are now required to be graduates, the accounting profession exercises a significant degree of control over their *'accounting education'*. In terms of structure, the qualifying process of the professional accountant can be divided into three clear stages, that is, academic study, practical experience and professional examinations. When considering the development of technical and vocational skills, it is important to recognise that there will be opportunities to develop such skills at each

stage. This paper, however, is concerned solely with the development of vocational skills within the undergraduate curriculum, i.e. the academic study stage.

The interest in the vocational skills of the accountant was heightened in the US in 1986 with the publication of the Bedford Report (AAAC 1986). The Bedford committee was made up of top practitioners and academics appointed by the American Accounting Association's executive committee to study the current state of the accounting profession. The committee recommended that accounting education should concentrate not only on technical subject matter but also on the development of analysis, problem solving, communication and synthesis skills. Bedford was followed in April 1989 by the "Perspectives paper" (Arthur Anderson & Co. 1989) issued by the partners of the eight largest international accountancy practices. The report was extremely critical of accounting education and recommended that the newly trained accountant should bring to the practice of accountancy, communication skills, intellectual skills, interpersonal skills, general knowledge, organisational and business knowledge, and accounting and auditing knowledge. What was particularly notable was that traditional accounting and auditing knowledge was only one of six categories of knowledge and skills deemed important for the successful practice of accountancy.

Deppe et al (1991) carried out an extensive literature review of accounting and non-accounting studies on knowledge and skills. Their review, which included 'Bedford' and the 'Perspectives paper' suggested that certain competencies emerge as important across all studies. They used their findings to construct an expanded set of 27 competencies which were organised into 7 new competency categories (see table 1 below).

This skills inventory was used to survey 873 practising accountants about the importance of the 27 competencies and the extent to which they had been developed during their training. Deppe et al state that practitioners seemed to send a clear message that the list of 27 competencies was representative of

the knowledge and skill needed for success in the current practice environment but there was less agreement as to where the specific competencies should be learned.

Table 1 – Deppe et al competency categories

1. Communication skills
2. Information development and distribution skills
3. Decision making skills
4. Knowledge of accounting, auditing and tax
5. Knowledge of business and the environment
6. Professionalism
7. Leadership development

Adapted from Deppe et al (1991), p277

Hardy & Deppe (1995) refined the work carried out above and identified 9 competencies from the original 27 developed by Deppe et al which in their view belonged to the junior year core curriculum. These 9 competencies were grouped into 5 categories which they believed were vital to both novice and experienced practitioners (see table 2 below). They argued that these skills could be acquired in the university curriculum jointly with technical skills.

Table 2 Hardy and Deppe Competencies

Written communication

(1) Ability to present views in writing

Oral communication

(2) Ability to present views through oral communication

(3) Ability to listen effectively

Group work and people skills

(4) Ability to understand group dynamics and work effectively with people

(5) Ability to resolve conflict

(6) Ability to organise and delegate tasks

Critical thinking

(7) Ability to solve diverse and unstructured problems

(8) Ability to read, critique, and judge the value of written work

Working under pressure

(9) Ability to deal effectively with imposed pressure and deadlines

Adapted from Hardy & Deppe (1995), p.64

These studies together with ‘Bedford’ and the ‘Perspectives paper’ had a significant impact beyond the US as the role and skills of the accountant is seen as similar, particularly within the UK. They formed the basis for the development of International Education Guideline No. 9 by the International Federation of Accountants (IFAC, 1996). The IFAC guideline states that

> “Achieving the goal of providing a foundation for lifelong learning requires a grounding in the knowledge, skills, and professional values essential to professional competency. Providing students with that grounding must be the focus of a program of accounting education and experience” (para 10).

IFAC break down the ‘knowledge’ component into four areas: general knowledge, organisational and business knowledge, information technology knowledge, and accounting knowledge. The ‘skills’ component is specified as intellectual skills, interpersonal skills and communication skills. The guideline argues that these skills enable the professional accountant to make successful use of the knowledge gained through education. They are not usually acquired from specific courses devoted to them but from the total effect of the educational programme.

More recently in the US, Albrecht and Sack (2000) note continued criticism of accounting programmes by both employers and educators and that student numbers are falling. They report several specific areas of concern including narrow and outdated course content, emphasis on memorisation and traditional teaching methods, neglect of personal skills development and under utilisation of technology.

In the UK, the Accounting subject benchmark published by The Quality Assurance Agency for Higher Education (QAA, 2000) distinguishes between “subject-specific knowledge and skills” and “cognitive abilities and non-subject specific skills”. In relation to the latter, the Accounting Benchmarking Group assert that on completion of a degree programme, a student should have acquired the abilities and skills shown in table 3 below.

Table 3 Extract from QAA Accounting Subject Benchmark

Cognitive abilities and non-subject specific skills

(i) a capacity for the critical evaluation of arguments and evidence
(ii) an ability to analyse and draw reasoned conclusions concerning structured and, to a more limited extent, unstructured problems from a given data set and from data which must be acquired by the student
(iii) ability to locate, extract and analyse data from multiple sources, including the acknowledgement and referencing of sources
(iv) capacities for independent learning and self-managed learning
(v) numeracy skills, including the ability to manipulate financial and other numerical data and to appreciate statistical concepts at an appropriate level
(vi) skills in the use of communications and information technology in acquiring, analysing and communicating information
(vii) communication skills including the ability to present quantitative and qualitative information, together with analysis, argument and commentary, in a form appropriate to the intended audience
(viii) normally, ability to work in groups, and other inter-personal skills, including oral as well as written presentation skills.

Source: QAA Accounting Benchmark statement (2000)

The Institute of Chartered Accountants of Scotland (ICAS) state in their student achievement log (ICAS 2002) that a CA student must achieve all of the 'prescribed competencies' by the completion of their third year. These core competencies are listed as accounting (financial or management); information technology; communication skills; and personal skills. ICAS list a number of other specialist optional competencies which students must demonstrate depending on their work experience. Although the ICAS requirements relate to the CA student's training after completion of their degree, it is clearly demonstrated, by the composition of the core competencies, that these are capabilities which require ongoing development towards becoming professional accountants.

The most recent major UK survey was carried out by Arquero et al (2001). They sent a questionnaire to 950 CIMA (Chartered Institute of Management Accountants) employers responsible for recruitment and training of management accountants within their organisations and achieved an

acceptable response rate of 22.5% (214 replies). From the survey they identified the importance of a range of vocational skills and the extent to which these skills were developed within new graduates and newly qualified accountants. It is important to note that not all CIMA students would have studied for an accounting degree. However, the CIMA student population would be similar to those training for other professional accounting qualifications. The analysis in the paper concentrated on the skills which were important but less well developed at the point of entry and qualification rather than evaluating the extent to which skills were developed in the three years (on average) between graduation and passing professional examinations.

The findings of the Arquero study are consistent with earlier studies and professional guidance identifying communication and time management skills as the most important. They stress the importance of vocational skills development during the undergraduate studies and that they should be covered in an integrated way throughout the accounting curriculum.

It is quite clear from the academic and professional literature that vocational skills are now seen as a vital component of accounting education. The development of vocational skills is expected to take place in each part of a student's accounting education (at university, during work experience and as part of the training for the professional examinations) although particular skills will be developed to a greater or lesser extent at certain times. At present students carry a heavy responsibility for developing their own vocational skills, yet they remain relatively unsupported in this process because of the fragmented nature of accounting education. Further research is therefore required to identify skills development opportunities and determine the respective responsibilities of HE, employers and the profession.

From this review of the literature it can be seen that there is considerable commonality between the particular sets of non-accounting capabilities and skills. These skills generally include communication, interpersonal skills, problem-solving skills and a variety of others. There is limited value in developing a completely new inventory of vocational skills and so this paper

uses an inventory developed by Arquero et al (2001). There are two particular advantages associated with this approach: firstly, the Arquero inventory was designed specifically for UK accountants and covers all of the skills mentioned in the above studies; secondly, the Arquero study was focused on employer opinions and will provide useful comparative data which will enhance the analysis of data gathered from students and lecturers.

The next section of the paper describes the research methodology and the findings from the opinion survey. Most of the tabular information shows employer comparators extracted from the Arquero study.

Section 3 The opinion survey

Design and execution

The survey was carried out in December 2002 and was exploratory in nature. The questionnaires were distributed to all accounting lecturing staff and all final year accounting students at one Scottish University. Replies were received from 17 students and 17 lecturers representing 53% and 85% of the respective populations. The students comprised 5 men and 12 women, two students were over 25 and the group was a mixture of continuing and direct entry students. Most of the lecturers had more than 10 years experience in academia, all but three were professionally qualified accountants and all had taught on at least two different levels on the accounting degree programme. The high proportion of females in the student sample was only marginally greater than the population itself and thus, the sample characteristics described above were strongly representative of the respective populations.

The questionnaire used to gather the data was based on a research instrument developed by Arquero et al (2001). They used an opinion survey to gather information from CIMA employers in UK based organisations. Arquero et al targeted senior employees responsible for the recruitment and training of management accountants and asked them to give their opinions on the importance of a series of vocational skills and the level to which these skills were exhibited by two groups: new graduates and newly qualified

management accountants. The survey described below seeks the views of final year accounting students and accounting lecturers using the 'Arquero inventory' as its basis, but with minor refinements.

The survey comprised two main parts both consisting of opinion based questions (see Appendices 1 & 2):

1. Specific vocational skills (22 items covering communication, group work, problem-solving, pressure and time management, IT and others)
2. Curriculum policy statements (covering content, responsibility and design)

The questionnaire asked respondents to indicate their opinions on an eleven-point scale (0-10). A large range was used to allow greater discrimination regarding importance. This was justified as both students and lecturers have considerable expertise in relation to the topics being investigated and are able to make finer discriminations than a 5-point scale would allow. The eleven-point scale also enabled direct comparison with the employer group in the Arquero study.

In part 1, respondents were asked firstly to indicate the importance of the skill for a professional accountant and secondly the level of that skill exhibited by the final year student (themselves in the case of the student, and graduating students as a group by the lecturers). In part 2, students and lecturers were asked to indicate their level of agreement with a series of statements about the curriculum.

Results

The results of the survey are presented in tables 4a and 4b with the results of the Arquero research provided alongside to aid analysis. Table 4a shows that all 22 of the attributes are seen as being fairly to very important with all scores ranging from 6.94 to 9.59 and mean scores of 8.7 for students and 8.2 for both lecturers and employers. There was broad agreement that communication skills and pressure management skills were most important

and the section on other skills, values and knowledge least important. Lecturers ranked some aspects of problem-solving more highly than did students and employers.

Table 4a. Vocational skills inventory – importance for professional accountant

	Students		Lecturers		Employers *	
	Mean	Rank	Mean	Rank	Mean	Rank
Communication						
Written	8.82	=10	**8.41**	**7**	**8.77**	**2**
Verbal	**8.94**	**=7**	**8.70**	**4**	**8.91**	**1**
Use of visual aids in presentations	7.18	22	6.94	22	7.19	22
Listening effectively	**9.24**	**=4**	**8.53**	**=5**	**8.73**	**5**
Judgements on relevance and value	8.24	=19	7.70	20	7.93	16
Group Working						
Working with others in teams	8.82	=10	8.29	9	**8.68**	**6**
Organisation & delegation	**9.0**	**6**	8.06	=11	8.33	10
Leadership	**8.94**	**=7**	8.00	=13	8.13	13
Problem-solving						
Identify/solve unstructured problems	8.82	=10	**8.75**	**3**	8.46	9
Find creative solutions	8.29	18	7.88	16	8.07	15
Integrate multidisciplinary knowledge	8.59	=14	**8.53**	**=5**	8.28	11
Perform critical analysis	8.59	=14	7.81	19	8.12	14
Pressure / time management						
Organise workloads	**9.53**	**2**	**8.94**	**2**	**8.52**	**7**
Meeting tight & coincident deadlines	**9.59**	**1**	**9.00**	**1**	**8.76**	**4**
Select and assign priorities	**9.29**	**3**	**8.38**	**8**	**8.77**	**3**
Information technology						
Use relevant software	8.88	9	7.82	=17	**8.49**	**8**
Knowledge of information sources	8.65	13	8.06	=11	7.67	20
Other - skill,values,knowledge						
Commitment to life-long learning	8.53	16	7.82	=17	7.87	17
Develop effective learning methods	8.24	=19	7.53	21	7.54	21
Social and ethical responsibility	8.18	21	8.18	10	7.70	18
Knowledge of accounting profession	**9.24**	**=4**	8.00	=13	7.68	19
Global view of financial environment	8.41	17	8.00	=13	8.15	12
Overall mean	**8.7**		**8.2**		**8.2**	

* adapted from Arquero et al (2001)

Those attributes ranked 1-8 out of 22 have been shown in bold for each group.

Table 4b. Vocational skills inventory – level exhibited

	Students		Lecturers		Employers *	
	Mean	Rank	Mean	Rank	Mean	Rank
Communication						
Written	6.35	20	5.35	13	5.37	13
Verbal	6.94	=16	4.94	19	5.37	12
Use of visual aids in presentations	6.94	=16	6.35	4	5.29	14
Listening effectively	7.53	7	5.70	6	5.64	8
Judgements on relevance and value	5.94	22	5.25	14	5.95	6
Group Working						
Working with others in teams	8.06	2	6.44	3	5.96	5
Organisation & delegation	7.59	6	5.24	15	4.92	20
Leadership	7.76	3	5.40	12	5.16	15
Problem-solving						
Identify/solve unstructured problems	7.12	14	5.19	16	5.62	9
Find creative solutions	7.06	15	4.50	22	5.54	10
Integrate multidisciplinary knowledge	6.76	19	4.76	21	5.14	16
Perform critical analysis	6.29	21	5.00	18	5.41	11
Pressure / time management						
Organise workloads	7.41	=10	5.06	17	4.95	19
Meeting tight & coincident deadlines	7.41	=10	5.53	=9	5.08	18
Select and assign priorities	7.70	=4	5.53	=9	5.10	17
Information technology						
Use relevant software	8.24	1	7.53	1	6.86	1
Knowledge of information sources	7.70	=4	6.59	2	6.83	2
Other - skill,values,knowledge						
Commitment to life-long learning	7.41	=10	5.69	7	6.41	3
Develop effective learning methods	7.47	=8	5.41	11	6.36	4
Social and ethical responsibility	7.47	=8	5.82	5	5.72	7
Knowledge of accounting profession	7.18	13	5.65	8	4.84	21
Global view of financial environment	6.88	18	4.88	20	4.52	22
Overall mean	**7.2**		**5.5**		**5.5**	

* adapted from Arquero et al (2001)

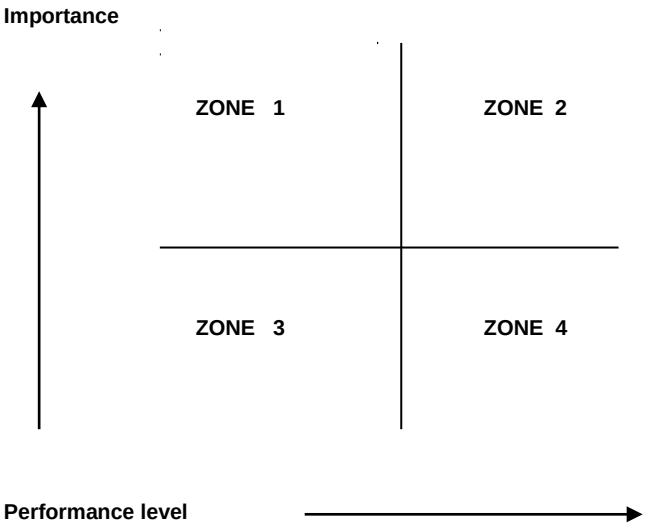
The respondents were also asked to rate student skill in each of the attributes. The results displayed in table 4b show strong agreement that students are skilled in information technology and information sources. There is moderate evidence that the students do not perform so well in written and verbal communications, problem solving and pressure management. The rankings show some agreement between the respondent groups although perhaps most interestingly, students consider themselves significantly better at all vocational skills than do lecturers and employers (mean scores: students 7.2; lecturers 5.5; employers 5.5). Although the students are aware that they have three years of professional education, examinations and work experience to

undertake before becoming professionally qualified this does not seem to be reflected in their rankings. The employers and lecturers of course have personal experience of the professional training and have a greater understanding of the ways these skills are utilised in professional practice. This 'opinion gap' raises interesting issues for curriculum development and may provide information about the skills that require to be developed during the accountants' post-university professional education. This issue is discussed further later in the paper.

Strategic Mapping

In an effort to ascertain a more scientific and integrated view of 'importance' and 'level-exhibited', a strategic mapping tool is employed (a graphical tool used in quality enhancement projects, see Smialer, 1995; Walker 1997; Arquero et al, 2001). Each of the 22 attributes can be 'plotted' and prioritised into 4 categories corresponding to the 4 quadrants (see figure 1 below). The four quadrants are established by the intersection of the overall mean values.

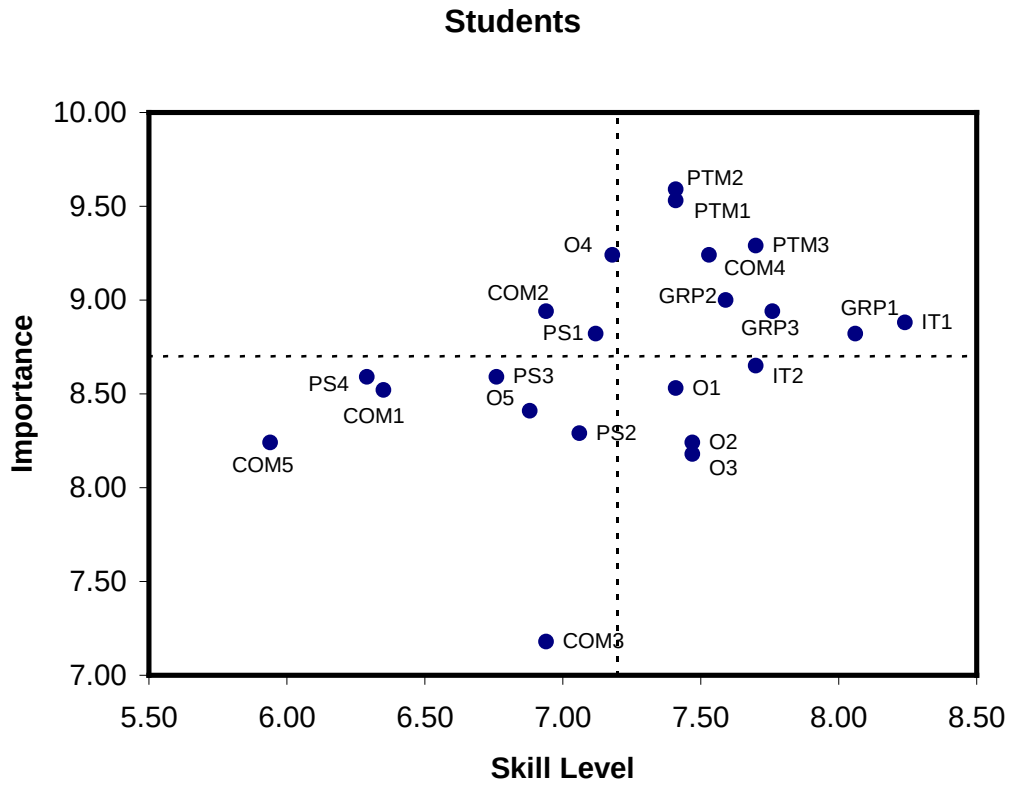
Figure 1 Strategic map



Attributes plotted in Zone 1 should be given a high priority as they have been ranked as important attributes but ones in which students exhibit low performance. Zones 2 and 3 are of secondary importance, the priority would

be to attend to those after dealing with Zone 1. Zone 4 shows attributes which are of low importance and high performance level, these do not require immediate attention and perhaps resources could be transferred from these areas towards higher priority items.

Figure 2 Strategic map (students)



As mentioned above the intersections, represented by the dotted lines, are determined by the mean overall scores shown on tables 4a and 4b (i.e. students (7.2, 8.7); lecturers (5.5, 8.2) and employers (5.5, 8.2). As a result different scales have been used on the maps and so care should be taken not to simply make visual comparisons between the three groups. The plot references are taken directly from tables 4a and 4b (i.e. student com2 = verbal communication (8.94, 6.94)).

Figure 3 Strategic map (lecturers)

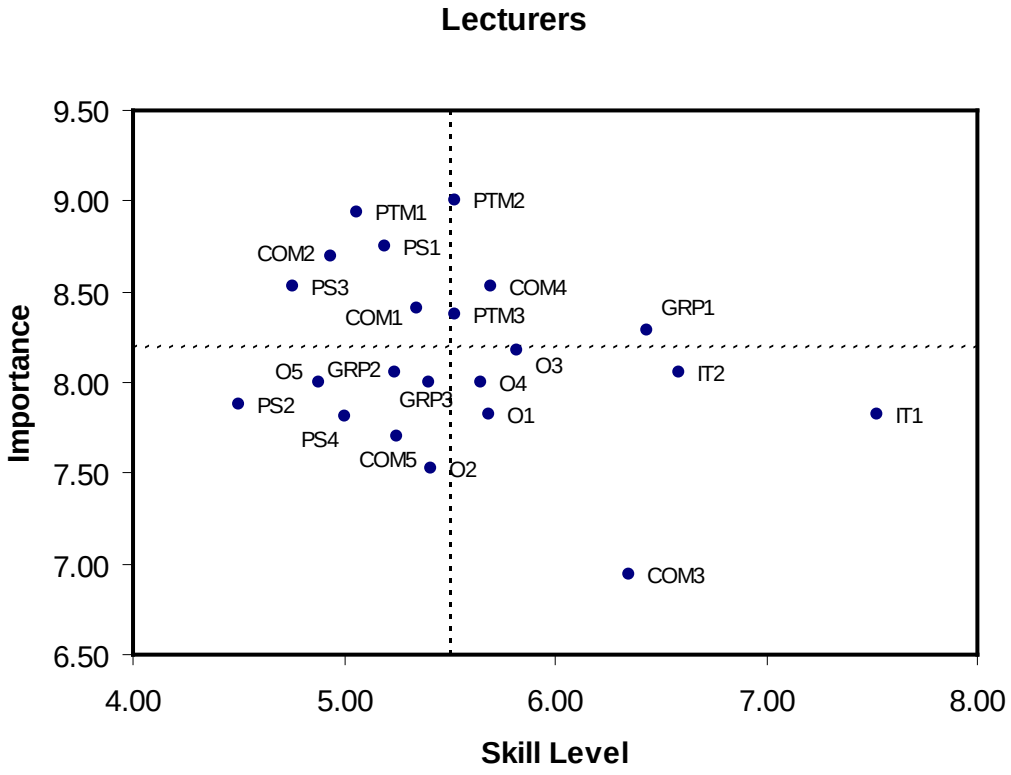
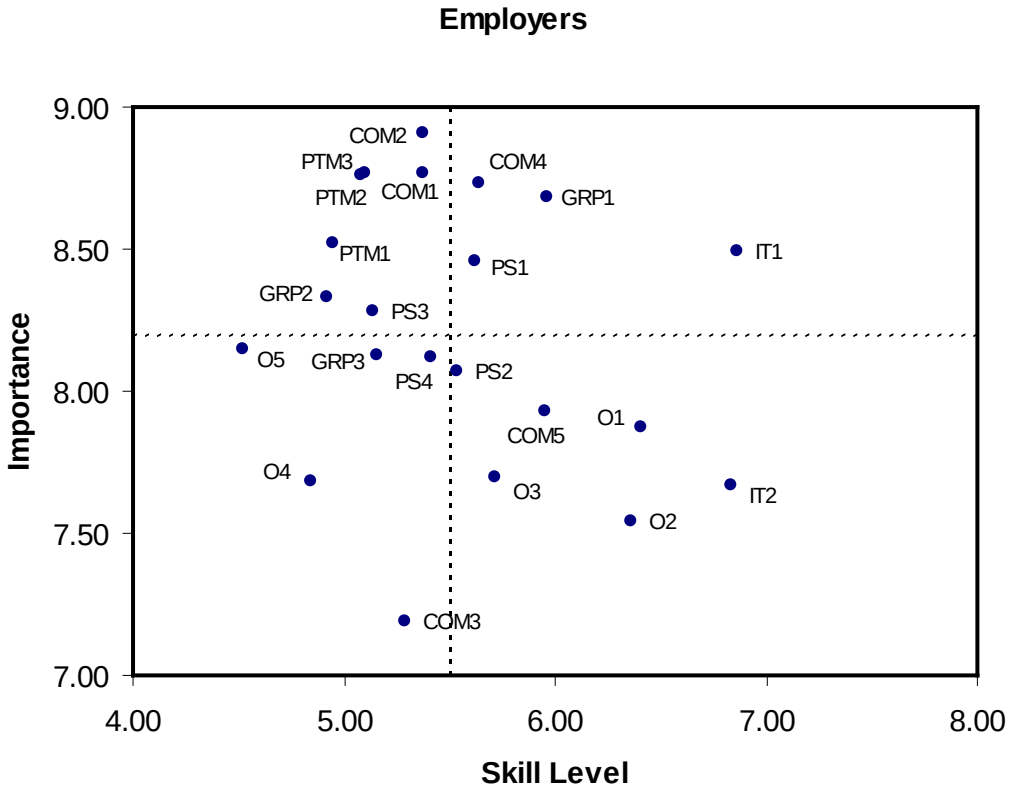


Figure 4 Strategic map (employers) – adapted from Arquero et al (2001)



The strategic maps are useful in taking the focus away from the raw scores and creating a visual representation of the relative significance of the skills within each group. The lecturer and employer groups appear to have greater clarity as to the areas of priority for development (shown by a more central position within zone 1). The student map is less convincing as three skills only just fall into priority zone 1.

Table 5 Vocational skills development priorities

Zone 1 – Students (from figure 2 above)

Present and defend points of view and outcomes of their own work, verbally, to colleagues, clients and superiors (COM2)
Identify and solve unstructured problems (PS1)
Have a knowledge of the accounting profession (O4)

Zone 1 – Lecturers (from figure 3 above)

Present and defend points of view and outcomes of their own work, in writing, to colleagues, clients and superiors (COM1)
Present and defend points of view and outcomes of their own work, verbally, to colleagues, clients and superiors (COM2)
Identify and solve unstructured problems (PS1)
Integrate multi-disciplinary knowledge to solve problems(PS3)
Organise the workloads to meet conflicting demands and unexpected requirements (PT1)

Zone 1 – Employers (Arquero et al – figure 4 above**)**

Present and defend points of view and outcomes of their own work, in writing, to colleagues, clients and superiors (COM1)
Present and defend points of view and outcomes of their own work, verbally, to colleagues, clients and superiors (COM2)
Organise and delegate tasks (GRP2)
Integrate multi-disciplinary knowledge to solve problems (PS3)
Organise the workloads to meet conflicting demands and unexpected requirements (PT1)
Organise the workloads to recognize and meet tight, strict and coinciding deadlines (PT2)
Select and assign priorities within coincident workloads (PT3)

The results of the strategic mapping exercise shown in table 5 above identify 9 of the 22 attributes as areas of priority where performance is low and importance is high. 5 of the 9 priority areas (highlighted in bold) are identified by at least two of the three groups and verbal communication skills were found in the priority zone for all three groups. This analysis provides a starting point for a reassessment of the way vocational skills are incorporated into the accounting curriculum.

Apparent weaknesses in verbal and written communication skills, and unstructured and multi-disciplinary problem-solving are consistent with much of the literature which argues that the accounting curriculum is dominated by technical content at the expense of developing softer communication skills

(Kimmel,1995; May et al, 1995; Morgan,1997; Albrecht & Sack, 2000; Gabbin, 2002). It is noted, for example, that tutorials in the early years are often replaced by workshops with an emphasis on computation and accounting procedures at the expense of discussion and debate of theoretical concepts and their practical application. In order to satisfy the requirements of professional accreditation, examinations are predominantly computational rather than narrative and interim assessments regularly comprise class tests and multiple choice exams rather than traditional academic essays. In addition, the demands of accreditation can limit the breadth of the curriculum and perhaps restrict the opportunity for accounting students to study subjects in related business disciplines at higher levels.

There may be other reasons why the findings show students exhibiting low performance in areas which are identified as being of high importance. The study itself shows that differing opinions may be one reason although employers' and lecturers' assessment of students' level of performance was remarkably consistent (despite the small sample of lecturers). It is also clear that there are difficulties with the definition and perceptions of different skills and attributes between individuals and groups. It is not possible to measure the impact of this on the results presented but it is important to recognise this methodological limitation. In addition, no effort was made to determine what level of performance was expected of a graduate and how skills were then developed through professional training towards qualification. In the Arquero study, employer opinion of performance levels of graduates rose modestly from a mean score of 5.5 to 6.4 for newly qualified accountants. This would suggest that there is scope for further development of vocational skills within both higher education and pre-qualification professional education and training.

Despite the above complexities the results of the strategic mapping exercise offer a useful starting point for a review of the existing curriculum. The internal and external perspectives are strikingly similar and form an agenda for debate around curriculum content, delivery and assessment.

Curriculum development

An area over which academics have control and students and employers have varying levels of influence is that of curriculum development. The results of the strategic mapping exercise above offer some focal points for attention within the curriculum although there are a number of wider issues which can provide a framework for change. As part of the opinion survey, students and lecturers were asked for their level of agreement (on an 11 point scale, 0-10) on 12 questions relating to curriculum content and design. The results are shown in table 6 below (again data on employer opinion has been taken from the Arquero study).

Table 6 Curriculum development

	Students	Lecturers	Employers*
Universities when designing new syllabuses should pay attention to work place requirements	8.8	7.6	7.7
Universities when designing syllabuses do pay attention to work place requirements	6.6	6.6	5.0
Qualified accountants only need technical knowledge to successfully perform accounting duties	3.6	1.6	1.8
Professional bodies when designing new syllabuses should pay attention to work place requirements	8.2	8.4	8.6
Professional bodies when designing syllabuses do pay attention to work place requirements	6.6	7.0	6.5
The development of these skills is not the responsibility of university education	2.2	1.2	3.1
The development of these skills should be integrated into all subject areas in the accounting curriculum	7.7	6.8	7.7
It is better to achieve skills development by additional specific courses	5.2	2.1	5.3
The development of these skills must be an explicit goal of university education	7.5	7.6	6.8
In personnel selection these skills are given at least the same value as the accounting knowledge	7.0	6.6	7.4
The development of these skills is at the cost of time for technical coverage	4.6	4.2	4.7
Using certain teaching methods it is possible to develop skills simultaneously with teaching of technical accounting knowledge	7.1	8.2	7.1

0 = strongly disagree ----------10 = strongly agree

*adapted from Arquero et al (2001)

It is interesting to note considerable agreement on the general issues of curriculum priority, design and development (summarised below). Some differences between groups were noted: lecturers and employers strongly disagreed that accountants only need technical knowledge. Lecturers were

unfavourably disposed to specific skills development courses whereas students and employers were neutral.
The results from table 6 above can be summarised as follows:

1. Universities and professional bodies should pay more attention to workplace requirements when designing syllabuses;
2. The development of a full range of vocational skills is the responsibility of university education and should be expressed as one of its explicit goals;
3. The development of vocational skills should be integrated into all subjects rather than taught in additional specific courses;
4. The development of vocational skills can take place simultaneously with teaching technical aspects of accounting without eroding the time available for technical coverage providing teaching methods are carefully considered;
5. Qualified accountants need more than just technical knowledge to perform their work effectively and this is reflected in personnel selection, where vocational skills are given at least the same value as accounting knowledge.

Limitations of the study

A number of limitations have already been mentioned in the above analysis. The small samples of lecturers and students from a single institution limit the generalisability of the findings although the results do show a remarkable degree of consistency with the large employer sample in the Arquero study. The vocational skills inventory is open to debate and interpretation but most of the skills were easily distinguishable and respondents appeared to have little difficulty in completing the survey.

As described above, ‘skill exhibited’ was assessed on a personal level by students and on a group basis by lecturers, and ‘as experienced’ by employers. These factors could lead to differences in perceptions as

individual students have different levels of ability, lecturers experience differences between cohorts of students, and employers may be ranking better students (i.e. those who got jobs). In addition, individual respondents will have different perceptions of 'level', this is a common problem with perception-based research, although an 11-point scale improves differentiation.

It was not possible to control for some of the more subjective differences but they are acknowledged and should be borne in mind when interpreting the data. Despite the above, the results are in agreement with much of the previous literature and confirm the importance of the development of vocational skills within the undergraduate accounting curriculum. The survey has highlighted a number of key skills where students, lecturers and employers have identified a performance gap. The survey provides lecturers with information about the perceived success of current teaching, learning and assessment strategies. The results could be interpreted as showing that students overestimate their levels of competence in vocational skills but by the time they graduate they do have a reasonable appreciation of the importance of a range of vocational skills to the professionally qualified accountant.

Section 4 Implications for the accounting curriculum

The findings outlined in the previous section give fairly clear indicators as to some of the ways in which the accounting curriculum should be evolving in order to develop the vocational skills necessary for professional accountants. There is a need for more emphasis on verbal and written communication skills, problem solving and time management skills. There is a call for greater integration of inter-disciplinary knowledge and skills within technical subject teaching. However, these changes require careful thought. Indeed it is unlikely that curriculum change alone will significantly improve the non-accounting capabilities of accountancy graduates.

This paper considers perceptions of the 'end product' of skills development on graduation rather than the process of development. There are a number of important issues to do with visibility, priority, quality and consistency of delivery, and the extent of assessment which make the response to such results quite a complex task. There are other pertinent questions such as the extent to which students are left on their own to identify and develop their own vocational skills. Kemp & Seagraves (1995), in an empirical study of transferable skills provision on five courses, asked four questions in relation to report writing, oral presentation, group working and graphical communication:

(1) Did students receive formal instruction in these skills?
(2) Were students given help other than formal instruction in developing these skills?
(3) Had instruction, guidance and assessment been clear?
(4) Did students feel equipped to use these skills in the workplace?

They reported that "… a picture emerged of an incoherent approach to the development of these skills" (p327).

Arnold et al (1999) note that competence development has shifted from being a by-product of academic work to becoming a deliberately engineered learning experience. However, in their study of student perceptions of competence development in undergraduate business-related degrees, they found that these courses were not focusing especially on competencies of the highest importance in the selection of graduates. Interestingly they report that technical requirements may make broader competence development more difficult in finance-oriented degrees. They also suggest that decisions about emphases in the curriculum depend partly on the skills and interests of the academic staff. Deppe et al (1991) claim that accounting educators typically have had little formal instruction in teaching methods and suggest a need for additional training in this area. Although this is changing, it is still a relevant issue. Of the academic staff surveyed in this paper, 82% were professionally qualified accountants but only 23% had a formal teaching qualification.

Whitston (1998) highlights the difficulties associated with integrating key skills into the curriculum. He argues that few of the things which the advocates of

key skills want to achieve are possible without paying close attention to the experience and the process of education, and this implies curriculum change which is more radical than the fragmentation and reductionism of competence and instrumental notions of skill. The professional guidelines (IFAC, 1996 & ICAS, 2002) adopt a functional competence approach rather than a capability development approach to vocational skills. It is clear that the former is easier to articulate, implement and monitor but surely it suffers from focusing on completion of the task rather than how the task has been carried out. Whitston (1998) is close to the mark in his argument that thinking about key skills must be firmly located in discussion of the design and purpose of the curriculum as a whole, and that as much attention should be paid to educational processes as outcomes. This issue is also noted by Sundem & Williams (1992) who see the need to move away from a 'knowledge oriented' to a 'process oriented' education system for accountants.

A further dimension is explained by Case & Gunstone (2002) in their discussion of metacognition. Metacognition refers to the knowledge, awareness and control of one's own learning (Baird, 1990). Case & Gunstone (2002) suggest that the development of vocational skills is not restricted to employability but that many of the skills are in fact tools which equip the learner to 'learn to learn'. They argue that metacognitive development can be more effectively supported by use of a range of vocational skills. They found far greater success in teaching metacognitive development where it was integrated with the student's primary area of study. Their approach to the curriculum was to *"cover less, uncover more" (p461)*. They found that certain factors promoted metacognitive development (e.g. journal tasks, unlimited test time) and others which mitigated against such development (e.g. excessive directed workload, time pressured assessments). There are aspects of this approach which merit consideration when tackling capability development in conjunction with conceptual (deeper) approaches to learning. Metacognitive development and learning to learn provide real possibilities for transferability and boundary crossing between education and work, as well as continuing post-qualifying professional development.

This section of the paper has attempted to highlight some of the complexities of vocational skills development within the accounting curriculum. The findings of the survey in section 3, although significant, must be considered very carefully. Curriculum change is necessary. Kemp and Seagraves (1995) assert that it is difficult to produce satisfactory results by 'tinkering' with existing courses to incorporate skills and suggest that a radical rethinking of course structure and delivery is required if these skills are to be addressed seriously in higher education.

Morgan (1997) noted that two-thirds of accounting practitioners expressed the view that they would be prepared to accept a reduction in the technical content of degree courses to facilitate communication skill training for undergraduates. Accounting educators need to seriously consider a radical rethink of the accounting curriculum. Such deliberations need to be matched by the accounting professional bodies who have exercised strict accreditation controls on the content and assessment of accounting undergraduate programmes. The continued development of accounting and accountants requires a major shift from "professionally technical orientation (emphasising technical skills and competencies to practice accounting)… to … a broad-based, multidisciplinary orientation (emphasising adaptive competencies, interpersonal skills and creative thinking)" (Wilson, 1992, p 9).

Section 5 Conclusions

The purpose of this paper was to consider the importance of vocational skills in an undergraduate accounting degree and to assess the extent to which such skills were currently being developed. An opinion survey was carried out amongst students and lecturers at a Scottish University and the results were compared with a similar study of employers by Arquero et al (2001). The findings confirmed earlier research in identifying communication skills, problem solving skills and time management skills as important vocational skills for professional accountants. The literature review emphasised the

importance of incorporating these vocational skills into the accounting undergraduate curriculum.

The penultimate section of the paper considered the implications of the survey for the accounting curriculum. Despite the complexities discussed in this section there is overwhelming evidence in section 2 that vocational skills need to be developed within the undergraduate accounting curriculum. Rawson (2000) presents a note of caution in the following statement that

> "There is concern … that attention to skills as outcomes will undermine the remit of higher education as the development of independent and critical thinking abilities. There is further concern that skill development alone will produce a society and a workforce that is adept at repeating yesterday's solutions to today's problems: that undue concentration on skill development may not be entirely appropriate in a changing world" (p. 225).

The challenge for accounting educators is to resist following the accounting profession down the road of 'functional competence' and to embrace the 'capability development approach' which may require more radical and systemic change.

The undergraduate curriculum is, of course, only part of the accountant's preparation for professional practice. There is considerable evidence of the need for an holistic approach to accounting education encompassing the academic, professional and work experience components of professional qualification. Vocational skills development has a central part to play in the design of a relevant, contemporary educational programme which will provide a strong foundation for the restoration and enhancement of the credibility, capability and calibre of accounting professionals.

Acknowledgements

The author would like to thank Professor Peter Goodyear of Lancaster University for his helpful comments on earlier drafts of this manuscript and Mr Simon Owen for his assistance with the presentation of the strategic mapping analysis.

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