

Graduates' vocational skills for the management accountancy profession: Exploring the accounting education expectation-performance gap

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Graduates' vocational skills for the management accountancy profession: Exploring the accounting education expectation-performance gap

Abstract: *This paper focuses on understanding the vocational skills required by graduates and assessing the competence of graduates for the management accountancy profession. It explores 'expectation gaps' by examining whether the Chartered Institute of Management Accountants (CIMA), practitioner employers and university educators have different expectations with regard to the important vocational skills for graduates. The research aim is to generate a greater understanding of the factors that create identified expectation gaps between the above stakeholders and to explore the implications of any gaps.*

The research was conducted by interviewing stakeholders and a survey of university accounting educators in UK and Ireland business schools. Expectation gaps between the stakeholders were identified. These expectation gaps appear to exist owing to conflicting views on the purpose of university education. The paper contributes to the growing debates about the general role of Higher Education (HE) in society and the role of university accounting educators in supplying graduate trainee accountants for the management accountancy profession.

Keywords: university accounting education, expectation gaps, vocational skills, educational objectives.

1. Introduction

There has been much debate regarding the future direction of accounting education in general (May et al., 1995; Albrecht and Sack, 2000; Parker, 2001; Cappelletto, 2010; Behn et al., 2012; Hopper, 2013; Evans, 2014; Flood, 2014) and the essential knowledge and skill sets required by management accountants in particular (Novin et al., 1990; Parker, 2002; Scapens et al., 2003; Hassall, 2005). Unsurprisingly then, there have been calls for more constructive dialogue between university educators, accounting practitioners and professional accountancy bodies:

In order to facilitate the creation of effective accounting practitioners, there is a need for proper alignment in linking (academic) education in accounting and (professional) training in accounting as complementary components of an overall developmental process (Wilson, 2002, p.309).

This paper focuses on the vocational skills expected of novice management accountants, who are increasingly graduate trainees. It explores whether the professional management accountancy body (CIMA), practitioner employers, and university educators have different expectations about vocational skill sets required of management accountants by examining what these different stakeholder groups say are the vocational skills needed by graduate trainee accountants. What the stakeholders view as the required vocational skills is compared with the education provided to determine whether there are any expectation gaps between what CIMA specifies as the required standard for competency, the education offered by universities and the requirements of employers.

In order to determine whether there are expectation gaps between CIMA, educators and practitioner employers, the following research question was generated:

Are there expectation gaps between the UK management accountancy body (CIMA), university educators and practitioner employers with regard to the important vocational skill sets expected of graduate trainee management accountant practitioners?

To date no study has ascertained and compared the views of UK accounting university educators with UK CIMA employers. For this reason this research study sought to establish what the views of UK university accounting educators on vocational skills are and to compare educators' views with a previous survey of UK CIMA employers (Arquero Montano et al., 2001). Accordingly a survey of educators was conducted and in addition interviews were carried out to establish and explore the views of UK and Irish university accounting educators and CIMA practitioner employers.

In order to address the research question, the vocational skills desired by each of the three stakeholder groups are established so that an analysis and discussion can emerge around why expectations gaps might exist and their implications for the stakeholders described. An interpretive approach, namely pragmatism, using a mixed methods methodology was adopted in this research study to generate data to help determine, interpret and understand factors that create expectations gaps between three stakeholder groups in HE (university educators, CIMA and practitioner employers). The following mixed methods are used to answer the research question:

1. Qualitative interviewing of stakeholders – 16 interviews (nine university accounting educators at six university business schools; a CIMA official; and six interviews of practitioner employers of trainee management accountants).
2. A survey sent to 417 university accounting educators working in business schools in UK and Ireland.¹ The accounting educators' survey was designed to be comparable with the Arquero Montano et al. (2001) survey of CIMA practitioner employers, listing a skills inventory for management accountants.

1.1 Contribution

This study establishes that there are expectation gaps between CIMA, practitioner employers and university educators with regard to the essential knowledge and skill sets expected of graduate trainee management accountant practitioners. It argues that the traditional identity of academics is under threat and the autonomy of university educators is being eroded as business schools are increasingly being subject to market forces. Accounting educators are under pressure to meet the stakeholder expectations, specifically, in the case of this paper, CIMA and practitioner employers, and are less able to ensure the delivery of the liberal education they might wish to deliver, owing to the constraints imposed by these expectations and by increased student numbers. This paper investigates whether educators in university business schools have been successfully colonised by CIMA and practitioner employers concluding that the colonisation has not been entirely successful. It calls for further research into the expectations of stakeholders in university accounting education.

1.2 Structure of paper

The remainder of the paper is structured as follows. The next section discusses a possible clash between vocational training and the desire of university educators to provide a liberal education and promote critical thinking, and the range of skills that CIMA graduate trainee accountants require. Section 3 describes the research design adopted for this study. The analytical framework used in this study, and adapted from Bui and Porter (2010), is explained. Section 4 presents and discusses the research findings. In the concluding section of the paper, the limitations and contributions of the research are outlined.

2. Literature Review

2.1 Vocational training versus liberal education and the promotion of critical thinking

It is common practice for university accounting graduates to obtain exemptions from professional accounting examinations and for business schools to advertise their accounting degree programmes accreditation on their web sites. University accounting education is a competitive market and, as Starkey and Tempest lament there is financial pressure for business schools, as ‘cash cows’ (2008, p.383), to recruit large numbers of students. A loss of accreditation could be a serious blow to a business school. Therefore university accounting educators need to pay attention and give serious consideration to the professional accountancy bodies’ and practitioner employers’ expectations of business schools to provide vocational training.

Scholarly commentators of HE like Barnett (1990; 1994; 2012) fear that the development of vocational skills’ agenda is in conflict with the traditional idea that what a university education aims to provide is not only discipline-specific knowledge and skills, but also a liberal education. Barnett maintains that that the clamour for vocational training is not just a threat to the notion of a liberal education, but also ‘is ideological in attempting to shift the university in a direction that reflects particular societal interests’ (1994, p.55). In this respect some scholars argue that there *should* be an expectations gap between university educators and practitioner employers and the accounting profession. For example, Craig and Amernic (2002, p.128) maintain that university accounting educators should be allowed to decide what to teach ‘in society’s best interests’ because professional bodies are elite organisations whose ‘language, values and prejudices’ are ‘sometimes at odds with core values in society’. Moreover, accounting educators, such as Gray and Collison (2002), see a clear distinction between education and training: ‘it is the role of education to supply the broad, critical and reflective elements and for training to provide specific and technical skills’ (p.825). McLean (2006) and Milner and Hill (2007) advocate providing a well-rounded education and promoting critical thinking, rather than producing accounting technicians. Hopper (2013) agrees that the development of critical skills is an essential component of university accounting degrees and that accounting degrees should not merely imitate professional accounting courses. Research-led university business schools need to develop ‘students’ critical skills and knowledge through research related teaching’ (ibid., p.134). However, as Hopper (2013) points out, there is a shortage of university accounting educators who are also high quality researchers and he calls for ‘universities benefiting from surpluses generated by

accounting courses in high demand need to divert more funding to addressing the supply problems, i.e. suitable teachers. [...] He further suggests that] entrants into teaching need opportunities to improve their research skills and knowledge' (p.135).

As Barnett (1994) points out, the promotion of critical thinking is a central part of the academic identity of university teachers. Henkel (2000) conducted research to investigate how the massive increase in undergraduate numbers had affected the roles of university educators. One finding from her interviews was that educators had to concentrate less on trying to produce critical thinkers and more on knowledge transfer in order to produce technicians.

It can be questioned whether university educators and CIMA and practitioner employers should have identical expectations with regard to the essential knowledge and skill sets that graduates have. Critical theorists such as Dillard (2002) argue that the reason why university educators are expected to meet the demands of CIMA and employers is because university business schools have been partly colonised by the accounting profession and the business community. This process of colonisation inhibits and to some extent prevents educators from carrying out their social responsibility and acting in the best interests of society as a whole. Critical management and accounting theorists call on accounting educators to resist colonisation and teach in a social responsible manner and develop students' critical skills, irrespective of the wishes of employers and the accounting profession:

Accounting education and critique informed by ideological awareness and healthy helpings of scepticism would seem to warrant inclusion in curricula, whether mandated by professional accounting bodies or not. ... There must be a return to a scholarly environment in which freedom to be sceptical and critical of conventional wisdom is not only tolerated, but actively encouraged. We would fail in our accountability to society if we were to become unthinking, uncaring automatons who permit conformism to crowd out critical action. (Craig and Amernic, 2002, p.160)

Boyce (2004) asserts that universities are increasingly being run as businesses and laments that university educators' efforts are 'increasingly centred on the narrow goals of preparing students for work and meeting the needs of business for trained workers' (p.566). Accounting educators need to encourage students to consider not just the technical aspects of accounting, but also the wider context of accounting and the 'social, environmental, ideological, and political dimensions of accounting' (ibid. p.581). He urges accounting educators not to be driven by the accounting professional bodies' wishes and that university accounting

education should therefore resist the adoption and maintenance of a solely a narrow vocational approach to teaching.

2.2 Should the development of vocational skills be an explicit goal of university education?

The role of universities in supplying graduates that meet the requirements of employers appears to be becoming increasingly important as the percentage of school-leavers educated at university continues to rise. Participation of 17 – 30 year olds in UK HE has increased from 42% in 2006/07 to 47% by 2013/2014,^{2,3,4,5} close to reaching the government target of increasing the level of participation to 50%. In the context of CIMA, the expectations of UK and Irish accounting educators are important because universities supply approximately 54% of CIMA professional trainee accountants (PTAs), and 47% of CIMA PTAs have a relevant degree⁶.

At first sight it does not appear that there should be any incompatibility between what is taught in UK business schools and the demands of employers. Since the 1960s, UK government reports (Robbins Report, 1963; Dearing Report, 1997) maintain that one of the main objectives of HE should be to promote vocational skills for employment so that graduates can contribute effectively to the economy and society. Joyce et al. (2006) note that employers are demanding vocational skills, which are also referred to as: ‘key’, ‘employability’, ‘transferable’, ‘generic’, ‘personal’ or ‘core’ and relate to an individual’s ability to operate in the work place alone or with others. It has been argued by some accounting educators that there is a need to focus on the development of vocational skills to meet the demands of employers and the government (Morgan, 1997; Albrecht and Sack, 2000; De Lange; 2006; Wells et al., 2009; Watty, 2014). However, this is not as straightforward as it might seem, as employers’ demands for vocational skills have been likened to mere ‘wish lists’ that are constantly changing: ‘core skills is but one of several related terms, each of which has been used to label sets, or lists, of skills or attributes deemed important by employers and government ... these skill labels seem prone to rapid and unpredictable change’ (Bennett et al., 2000, pp.15).

However, it needs to be established whether there is agreement amongst accounting educators on the list of vocational skills for undergraduates that should be developed or *even whether there is agreement that the development of vocational skills must be an explicit goal of university education*. It can be questioned whether there is a theoretical or empirical

justification to compel academics to promote a range of vocational skills in order to satisfy employers' expectations: 'What the lists have in common is that they are theoretically and empirically threadbare and have rarely, if ever, contained the perceptions of those who are expected to deliver these skills in Higher Education' (ibid.). This study seeks to address this lack of empirical work on the expectations of those delivering vocational skills in HE by asking the opinions of university accounting educators in UK business schools about a possible list of vocational skills of undergraduates that should be developed.

2.3 *The range of skills that CIMA graduate trainee accountants require*

Much more than technical knowledge is required from graduates wishing to become members of CIMA, the management accounting professional body. CIMA requires graduate trainees, who wish to become qualified management accountants, to acquire technical expertise and business knowledge, and develop competency in a wide range of cognitive and behavioural skills, as specified by International Federation of Accountants (IFAC), as shown in Figure 2.1.

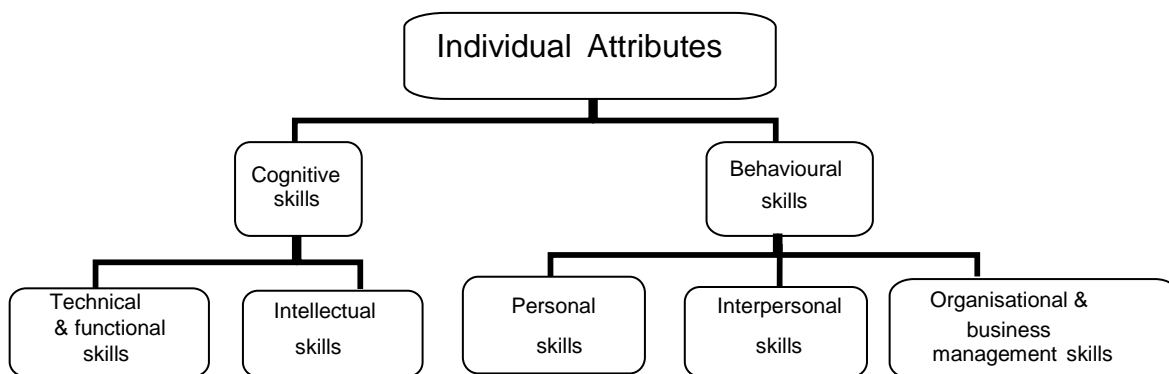


Figure 2.1 IFAC Skills Taxonomy
(IFAC IES 3, 2014, p.46)

CIMA (2007) claims to be the best-in-class, in terms of meeting the needs of business and that its education and training programme produces professionally qualified accountants who have unique skills that differentiate its members from those of other accounting bodies. These unique skills enable CIMA management accountants to operate as 'hybrid' accountants in business. Hybrid accountants, as Burns and Scapens (2000) explain, not only have financial and accounting knowledge but also an in-depth understanding of the business in which they are working. They need to have the required level of communication and problem solving

skills to enable them to be more than ‘number crunchers’ or accounting technicians and to be able to operate as internal consultants. In this way, CIMA recognises the importance of a range of behavioural skills for a successful management accountancy career. However, the bulk of CIMA’s effort in assessing the skills of trainee management accountants is devoted to ensuring that would-be members have the required cognitive skills and the technical, functional and intellectual skills, as shown in Figure 2.1. This assessment is by examinations.⁷

However, CIMA does not insist on its own assessments as graduates with relevant degrees gain exemptions and graduates with accounting degrees can be exempt from the majority of CIMA examinations. By studying at a university that tailors its accounting and business courses so as to obtain the maximum possible exemptions from professional accounting bodies, it is possible for accounting graduates to be exempted from 11 out of CIMA’s total of 17 examination papers. For example, this can be achieved by graduating from Manchester Metropolitan University with a BA (Hons.) degree in Accounting and Finance (CIMA, 2015).

This research study examines the expectations of CIMA, a growing international management accountancy body. However, at present CIMA’s membership is mainly concentrated in the UK and Ireland. While there has been research regarding what UK practitioners, who are members of the CIMA, believe to be the top ten skills for management accountants (Burns and Yazdifar, 2001) and what CIMA employers deem to be the essential knowledge and skill sets required by competent management accountants and the levels exhibited by graduate trainee accountants (Arquero Montano et al., 2001; Hassall et al., 2005), there has been a lack of research investigating the views of UK accounting educators, particularly management accounting academics. The next section explains the methods used by this study to address this lack of research.

3. Research Design

3.1 Stakeholder qualitative interviews

Access to all interviewees, except the CIMA official, was based on opportunistic (also known as emergent) sampling. Cohen and Crabtree (2016, p.1) note this sampling technique is useful:

When flexible research and sampling design is an important feature of qualitative research, particularly when the research being conducted is exploratory in nature. When little is known about a phenomenon or setting, a priori sampling decisions can be difficult.

The educators selected for interviewing had at least five years' experience of teaching accounting. All the practitioners selected for interviewing employed graduate management accountants. Most of the interviews were conducted at the interviewees' place of work, but some were interviewed when they were visiting the university where the author is employed. The interviews were semi-structured. Some themes emerged spontaneously and were discussed because they were regarded as interesting and relevant to the research topic by both interviewee and interviewer. All interviews were recorded and transcribed verbatim. The interviews lasted for about an hour and half and were about nine thousand words long. QSR NVivo⁸ was used to analyse the interviews.

3.2 Survey of university accounting educators in UK and Ireland

The survey was web-based and was designed after the accounting educators had been interviewed. Ethical approval was sought and obtained from the university where the author is employed. The questionnaire was discussed and advice sought from an expert, a professor of social science methods who is the director of the Social Sciences Methods and Data Institute and was piloted in a business school. After the author had ascertained that the web-based survey functioned as planned and there were no problems, the survey was then sent to colleagues at other business schools. Both the accounting educators who were interviewed and those who were surveyed were told that the research topic was about the education and training of accounting undergraduates and trainee management accountants and asked about the skills that accounting undergraduate students and trainee accountants need to master. In addition, both the interviewees and the respondents were asked about the development of vocational skills and whether university educators could and should respond to the needs of business and the accounting profession.

In 2008 the questionnaire was sent to all UK and Irish academics who teach management accounting and/or had a research interest in accounting education, as indicated in the British Accounting Review Research Register (Helliard and Monk, 2006). A total of 417 academics were identified who met the selection criteria. One hundred and twenty two valid responses were received, a response rate of 29.3%. This response rate compares favourably with recent

accounting practitioner surveys in the UK. Arquero Montano et al. (2001) and Burns and Yazdifar (2001) achieved response rates of 22.5% and 28%, resulting in 214 and 279 valid responses respectively.

The purpose of the survey was to establish educators' views on the important vocational skills for accounting graduates and other relevant degrees which have accounting as core modules. The survey instrument used gathered the opinions of the sample on an inventory of specific vocational skills and the accounting educators were asked to rate the skills in terms of importance in their curriculum. The accounting educators' survey was designed to be comparable with the Arquero Montano et al.'s (2001) survey of 950 CIMA practitioner employers, listing an inventory of skills for management accountants, so that the two surveys could be compared to explore further and identify specific 'importance expectation gaps' between employers and educators.

Arquero Montano et al.'s (2001) survey of CIMA practitioner employers lists 22 skills and characteristics (Arquero Montano et al.'s characteristics are 'other skills, values and knowledge', see skills numbers 18–22, in Table 4.1) for management accountants. Employers were asked to rate the skills in terms of their importance for adequate performance by a competent management accountant (*importance* ranking), and to rate the level of skill exhibited by a typical graduate trainee (*competence* ranking). The educator ranking and assessment of skill importance was generated from the current author's survey in 2008 of UK and Irish academics. The accounting educators were asked to rate 21 skills, values and knowledge in terms of importance in their curriculum; and secondly to indicate the extent to which, from their perspective, the typical graduate with an upper second class 2:1 degree qualification from one of their courses would be competent in each one of the specified skills. It can be argued that one particular skill, 'Have a comprehensive and global vision of the organisation' (skill number 22 in Arquero Montano et al.'s (2001) survey) would not be relevant to a survey of accounting educators because undergraduates are yet to join a work place organisation and become full time graduate trainees. Therefore this skill was not included in the overall list of skills.

The survey data was analysed using SPSS (Statistical Package for the Social Sciences). SPSS was used to organise the data and help conduct descriptive analysis, for example, of means, and to describe and display differences in rankings of items by respondents.

In the next sub-section, the analytical framework that was used to explore the university accounting expectation-performance gap and the influence of CIMA on university accounting educators is explained.

3.3 Exploring the accounting education expectation-performance gap

CIMA, a member of the IFAC, expresses its view of the necessary skills and competencies expected of practitioners by adopting IFAC's guidelines on competence development. Practitioner employers, who are members of CIMA, are governed by CIMA's specification of the expected competencies of newly qualified management accountants.

CIMA also has influence on university accounting educators, as depicted in Figure 3.1. Accounting and relevant degree courses can be granted CIMA accreditation, so that graduates can gain exemptions and universities can use accreditation as a powerful marketing tool to attract students wishing to become qualified management accountants. Thus CIMA's competence development guidelines are important to both employers' and educators' assessment of vocational skills importance.

The current author has developed a framework, adapted from Bui and Porter (2010), in order to explain the contributing factors that create expectation gaps between the three stakeholders: CIMA, practitioner employers and university accounting educators. This framework is shown in Figure 3.1 below.⁹ By using the interview and survey data, as discussed in sections 4.1 and 4.2, employers' and educators' assessment of vocational skills importance are established and the two stakeholders' different sets of desired competencies are compared. The difference between these two stakeholders' desired competencies reveal any 'importance expectation gap (a)', as Figure 3.1 shows. Then graduates' vocational skill competencies, as perceived by educators and employers, were discovered and compared. The difference between the assessment of graduates' competencies as perceived by educators and employers reveal any 'graduate competence assessment gap (b)', as shown in Figure 3.1. The difference between the assessment of graduates' competencies as perceived by educators, and educators' desired competencies reveal any 'education constraint gap (c)'. The difference between the assessment of graduates' competencies as perceived by employers and educators' desired competencies reveal any 'performance gap (d)' and is the sum of (c) and (b). Finally the framework, Figure 3.1, shows the difference between the assessment of

graduates' competencies as perceived by employers, and employers' desired competencies reveal any 'expectation-performance gap (e)', the sum of (a) and (d).

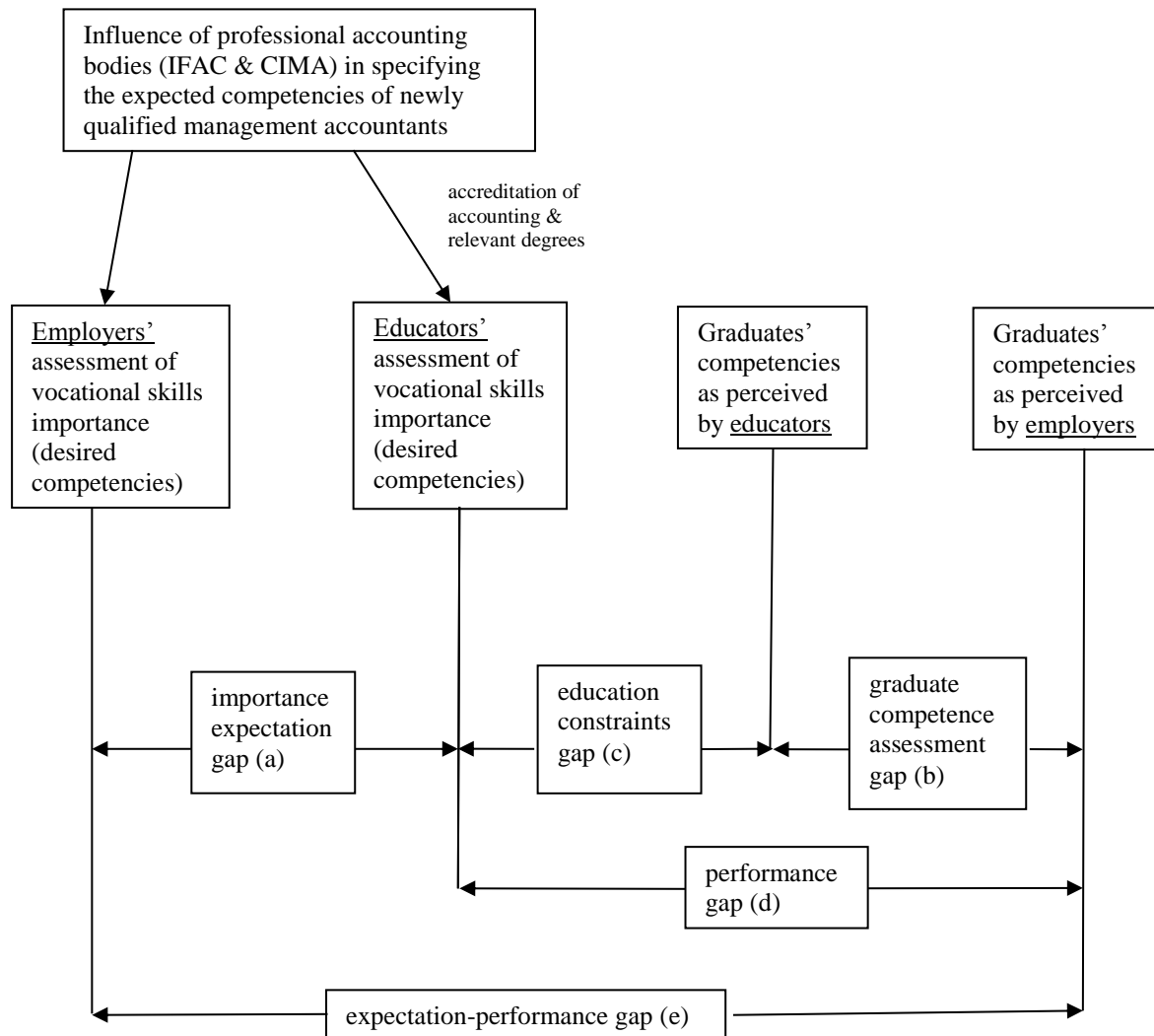


Figure 3.1

Hypothesised structure of university accounting education's expectation-performance gap (adapted from Bui and Porter (2010), p.31)

This paper identifies and explains any differences between the assessment of graduates' competencies as perceived by educators and employers, and these two stakeholders' desired competencies by use of the gaps identified in Figure 3.1. First, an 'importance expectation gap' reveals differences between educators' and employers' desired competences. Secondly a 'performance gap' reveals differences between educators' desired competences and employers' assessment of graduates' competencies. The performance gap can be further

analysed into two components, an ‘education constraints’ gap and a ‘graduate competence assessment’ gap, as explained above.

Having explained the analytical framework used to explore the university accounting education’s expectation-performance gap, the next section discusses the findings from the interviews of a CIMA official, practitioner employers and university accounting educators in order to identify, explore, analyse and explain any expectation-performance gaps. This next section draws together the findings of the qualitative and quantitative research carried out to identify and explain expectation gaps between the three stakeholders. Empirical data are assessed from the interviews and the questionnaire conducted for this research which establishes expectation gaps in relation to an IFAC taxonomy of skills (Figure 2.1) which encompasses cognitive and behavioural skill sets. These data explore the different stakeholders’ perceptions about the two sets of skills and comprises the following: a survey and interviews of educators; interviews of employers and a CIMA official; and an existing published survey of employers.

4. Research Results

4.1 The CIMA official, practitioner employers’ and university educators’ interview findings

This section compares and summarises the three stakeholders’ views on the role of university education in the development of graduates’ vocational skills and knowledge for the role of trainee management accountants in order to discover reasons for any possible ‘expectation gaps’ between CIMA employers and educators. All the practitioner employers interviewed believe that university accounting educators can, and should, provide degree programmes that respond to the needs of business and the accounting profession. For example, one employer warned that, if university educators do not aim to supply graduates who meet the expectations of employers in business and the accounting profession, then the demand from these employers for university graduates would fall. All of the practitioner employers saw university accounting education as vocational training. However, the senior CIMA official interviewed, Lee¹⁰, who was recommended and put forward for interviewing by CIMA’s Head of Education and Training, believes that the accounting profession and academia should not have the same expectations of their respective students: ‘there is a clear distinction between what you are doing academically, and what you are doing professionally’. This is because he does not believe that degrees, even accounting degrees, should be viewed as just ‘the preparatory years for professional [accounting] qualifications’. The university educators

agreed with the CIMA official. None of the accounting educators interviewed saw the role of university education as preparation for accounting professional examinations. For example, two typical responses were:

I do not think the role of an accounting degree is to prepare [undergraduates] to become professional accountants, for a university that's not our role.

I am very strongly against the idea of running accounting degrees that are streamlined to the needs of profession, in the way the American systems and Australians systems are, because I don't think that is the point of university education.

Educators want to be independent of the accounting profession, despite it being impossible to be so completely. This is because gaining and maintaining accreditation is important for university business schools in terms of attracting students, and gaining exemptions from professional accounting examinations is an important factor for many students when they are deciding to study for a degree.

However, academics have traditionally seen their role and professional identity as promoting critical thinking. The interview findings show that, despite variations, accounting academics wish to protect their academic autonomy and identity by being educators of critical thinkers and by providing a well-rounded education, as opposed to training technicians. The findings from the interviews indicate that in this respect some accounting educators are dissatisfied. For example, one interviewee expressed his dissatisfaction with the worsening staff–student ratio (SSR), comparing teaching undergraduates to a mass production process, like factory farming:

I don't particularly enjoy teaching first year undergrads, not because I have any problems in the lecture hall; they listen to me, they are quiet and they seem to be concentrating. But it's just you know as far as I can see is the academic equivalent of factory farming of hens as far as I can see.

The following educator observation exemplifies the financial pressures universities are under to reduce entry requirements and recruit as many students as possible:

We can crudely call it the bums on seats approach, which means we encourage great numbers of students into lecture theatres, where ability is not necessarily the driving force, where the financial

environment causes numbers to be the important factor, and therefore standards have to drop for incoming students to get the numbers in.

The educator concerned had become so dissatisfied and to a large extent demoralised that he had resigned from his post. His HE institution had, by adopting 'the bums on seats approach', created a vicious circle that put more and more pressure on university accounting educators.

In the interviews, all the nine educators, from four pre-92 universities and two post-92 universities, raised the issue of the deteriorating SSR being a barrier preventing the development of vocational skills. They thought that there was a danger that university accounting educators might concentrate on teaching technical knowledge only because it was becoming more difficult to try to develop vocational skills, particularly critical thinking, because of the increase in student numbers and the consequent deterioration in SSRs. However, all of the practitioner employer interviewees considered that it was essential for graduate trainee accountants not only to have technical and business knowledge, but also to have good communication and interpersonal skills.

The practitioner employers interviewed were concerned that graduates with relevant degrees who had been granted exemptions from exams that cover the basics of financial accounting did not have the required level of bookkeeping skills. For example, one employer stated that in his experience graduates did not have the bookkeeping skills which are the accounting 'tools of the trade' because, he conjectured, academics spend insufficient time teaching bookkeeping, as they consider the subject as too simple or as not exciting enough to teach undergraduates. Employers expressed the view that, if degree courses are granted exemptions from exams such as CIMA's the 'Fundamentals of Financial Accounting', then university accounting educators should spend more time teaching the basic knowledge and skills required for double entry bookkeeping. However, some employers took a different line, expressing the belief that it might be better and safer for CIMA to assume that graduates have no prior knowledge and therefore for no exemptions to be granted and so graduates would have to take all the CIMA examinations, or at least the take the CIMA examinations that test basic financial accounting knowledge.

Thus employers think that graduates do not have the skills and knowledge that, based on the exemptions awarded by professional accounting bodies such as CIMA, practitioner

employers expect and graduates need to become fully qualified management accountants. While this view about graduates' basic accounting skills is held by employers, Lee, the CIMA official, expressed the view that university accounting educators and CIMA had been too successful in producing professional accountants with higher-order skills. In his view, these graduate accountants are over-educated for the limited accounting roles employers expect. If accountants do not have the chance to use the creative problem-solving skills that they have acquired, then these accountants will, he thinks, be dissatisfied at work. Thus while employers think that graduate trainee accountants lack basic technical skills, the CIMA official considers that his institute, with the help of universities, is producing over-qualified professional management accountants who are frustrated by the lack of opportunities to use higher-order skills at work.

In summary, the employers interviewed see university accounting education as vocational training. However, academics, such as Atkins (1999), note that the needs of employers vary greatly. The skills and knowledge required by a small family business are not likely to be the same as those required by a large multinational organisation. Hence there is no real likelihood of an employability expectation consensus between all employer organisational types and sizes. Therefore it is not possible for university accounting educators to produce graduates with the skills and knowledge that will satisfy the needs of *all* employers. However, the CIMA official and the university educators interviewed did not believe that degrees, even accounting degrees, should be viewed as training for employers and preparation for professional accounting exams.

4.2 Surveys to identify expectation gaps between employers and accounting educators

This sub-section compares the survey of university accounting educators, conducted as part of this study in 2008, with Arquero Montano et al.'s (2001) survey of practitioner employers to explore further and identify specific 'importance expectation gaps' and 'graduate competence gaps' between employers and educators. To determine whether expectations differ with regard to the essential skill sets required by graduate trainee management accountants, an examination was made of what the different stakeholder groups (university educators and CIMA practitioner employers) believe are the important vocational skills. Table 4.1 contains a comparison of these two groups to illustrate and identify ranking and assessment differences between educators and employers among the skills listed. This comparison allows conclusions to be drawn about whether any expectation gaps exist

between the aims of university educators and the requirements of employers. This assessment begins with an examination and comparison of employers' and educators' opinions on what are the important vocational skills.

4.2.1 *The assessment of skill importance – the importance expectation gap*

Both surveys are compared in Table 4.1. Table 4.1 shows each of the 21 skills, values and knowledge ranked in order of importance, first by employers and secondly by educators. Column III in the table shows the difference in the ranking of importance between employers and educators (the importance expectation gap, discussed in section 3.3). University educators' views on developing each of the vocational skills and knowledge areas were assessed using a 4 point Likert scale, ranging from 1 (this skill is *most centrally important*) to 2 (this skill is *important*), to 3 (this skill is of *little importance*) and to 4 (*not deemed important*). The employers' views are compared with the educators' using the same two 4 point Likert scales.¹¹ Column IV shows employers' and column V shows educators' assessment of importance each of the 21 skills and characteristics showing the respondents' average score, using the 4 point Likert scale. Column VI in the table shows the difference in assessment of skill importance between employers and educators (the skill importance expectation gap). The educators' and employers' assessed average scores for each of the vocational skills and knowledge areas, which is shown in in columns IV and V, are used to produce the ranking of importance which is shown in columns I and II.

Table 4.1

Arquero Montano et al. (2001) Survey v Author's survey in (2008)

21 vocational skills inventory – ranking of importance and assessment of importance

| Skill no. | | ranking of importance | | | assessment of importance | | |
|-----------|---|------------------------------|---------------|--|---------------------------------|---------------|---|
| | | I | II | III | IV | V | VI |
| | | Arquero Montano | Current Study | Difference in ranking, I-II (<i>gap</i>) | Arquero Montano | Current Study | Difference in mean score, IV-V (<i>gap</i>) |
| | | Employers | Educators | | Employers | Educators | |
| | <u>Communication skills</u> | Rank | Rank | | Mean | Mean | |
| 1 | Present & defend points of view & outcomes of their own work, <i>in writing</i> , to colleagues, clients and superiors (com1) | 2 | 9 | -7 | 1.37 | 1.94 | -0.57 |
| 2 | Present & defend points of view & outcomes of their own work, <i>verbally</i> , to colleagues, clients and superiors (com2) | 1 | 17 | -16 | 1.33 | 2.16 | -0.83 |

| | | | | | | | |
|----|---|----|-----|-----|-------------|-------------|--------------|
| 3 | Use of visual aids in presentations (com3) | 21 | 20 | +1 | 1.84 | 2.30 | -0.46 |
| 4 | Listen effectively to gain information & to understand opposing points of view (com4) | 5 | 6 | -1 | 1.38 | 1.82 | -0.44 |
| 5 | Critically read written works, making judgements on their relevance & value (com5) | 15 | 1 | +14 | 1.62 | 1.53 | -0.09 |
| | <u>Group working skills</u> | | | | | | |
| 6 | Work with others in teams (gws1) | 6 | 5 | +1 | 1.40 | 1.80 | -0.40 |
| 7 | Organize & delegate tasks (gws2) | 10 | 19= | -9 | 1.50 | 2.25 | -0.75 |
| 8 | Assume leadership positions when necessary (gws3) | 12 | 21 | -9 | 1.56 | 2.43 | -0.87 |
| | <u>Problem-solving skills</u> | | | | | | |
| 9 | Identify & solve unstructured problems (psk1) | 9 | 3= | +6 | 1.46 | 1.59 | -0.13 |
| 10 | Find creative solutions (psk2) | 14 | 13= | +1 | 1.58 | 1.98 | -0.40 |
| 11 | Integrate multidisciplinary knowledge to solve problems (psk3) | 11 | 16= | -5 | 1.52 | 2.02 | -0.50 |
| 12 | Perform critical analysis (psk4) | 13 | 3= | +10 | 1.56 | 1.59 | -0.03 |
| | <u>Pressure & time management</u> | | | | | | |
| 13 | Organize workloads to meet conflicting demands & unexpected requirements (ptm1) | 7 | 11= | -4 | 1.44 | 1.95 | -0.51 |
| 14 | Organize workloads to recognize & meet tight, strict, & coinciding deadlines (ptm2) | 4 | 7 | -3 | 1.37 | 1.83 | -0.46 |
| 15 | Select & assign priorities within workloads (ptm3) | 3 | 8 | -5 | 1.37 | 1.89 | -0.52 |
| | <u>Information technology</u> | | | | | | |
| 16 | Use relevant software (IT1) | 8 | 16= | -8 | 1.45 | 2.02 | -0.57 |
| 17 | Knowledge of information sources (IT2) | 19 | 4 | +15 | 1.70 | 1.75 | -0.05 |
| | <u>Other skills, values & knowledge</u> | | | | | | |
| 18 | Have a commitment to life-long learning (osv1) | 16 | 19= | -3 | 1.64 | 2.25 | -0.61 |
| 19 | Ability to develop methods of effective learning (osv2) | 20 | 14 | +6 | 1.74 | 2.00 | -0.26 |
| 20 | Awareness of social & ethical responsibilities (osv3) | 17 | 13= | +4 | 1.69 | 1.98 | -0.29 |
| 21 | Have knowledge of the accounting profession (osv4) | 18 | 11= | +7 | 1.70 | 1.95 | -0.25 |
| | Overall mean of the 21 Vocational skills | | | | 1.53 | 1.95 | -0.42 |

Scale for importance of skill:

1 = most centrally important; 2 = important; 3 = little importance; and 4 = not important.

As illustrated in Table 4.1, with regard to the ranking of skill importance, there is a marked difference of opinion between the two groups. The educators consider critical reading (com5)

to be the most centrally important skill in their curriculum. This finding is not unexpected, since as explained earlier in section 4.1, academics stress that one of their main aims is to encourage undergraduates to develop critical thinking skills. However employers rate critical reading as only fifteenth out of the 21 skills. While this is a very large *ranking* ‘importance expectation gap’ between employers and educators, their difference in *assessment* of importance of critical reading is much closer, as Table 4.1 shows. Educators’ average score for critical reading (com5) is 1.53 and employers’ average score is 1.62. Thus employers do believe that critical reading skill is important, but it is much lower in their ranking list. The employers’ range¹² of average scores for the 21 skills is much smaller than the educators’, and the employers’ overall average for the 21 vocational skills is 1.53, while educators’ overall average is 1.95, showing that employers believe that generally the 21 vocational skills are more important than educators consider them to be. The next most important skills for academics are problem solving and critical analysis skills: ‘identify and solve unstructured problems’ and ‘perform critical analysis’ are skills that are common aims for university educators and are in many module specifications. However, employers rate problem solving and critical analysis skills as significantly less important and they are rated ninth and thirteenth respectively.

Employers and educators also have quite different views on the importance of communication skills. Employers rate verbal communication (com2) first and written communication skills (com1) second as the most important skills for adequate performance by a competent management accountant. Employers are aware that management accountants need not only technical skills but also the ability to communicate productively with staff and managers at all levels. Yet educators rate verbal and written communication skills low, as the seventeenth and ninth most important skills. The third most important skill for employers is a fairly low level, practical skill: ‘Select and assign priorities within workloads (ptm3)’. Meeting deadlines is very much a critical skill for accountants, although educators rate the prioritising of workloads, as only the eighth most important skill.

The ‘importance expectation gap’ analysis shows that employers believe that most of the 21 vocational skills are more important than educators believe. In general educators believe that most of the 21 skills are important. Educators believe that more attention should be given to each of the 21 vocational skills and knowledge areas. However, as a consequence of the

deteriorating SSR, it is very difficult for educators to devote more time to develop vocational skills.

4.2.2 The assessment of graduate competence – the graduate competence assessment gap

Table 4.2 shows each of the 21 skills, values and knowledge ranked in order of assessed graduate competence in that skill, first by employers and secondly by educators. Column VI in the table shows the difference in employers' and educators' ranking of the competence of graduates (the graduate competence expectation gap).

The educators' assessment of the competency of graduates uses a 4 point Likert scale, ranging from 1 (graduates have *great competency* in this skill) to 2 (*some competency*), to 3 (*little competency*), to 4 (*no competency* in this skill). The employers' views are compared with the educators' using the same two 4 point Likert scales.¹³

Table 4.2

Arquero Montano et al. (2001) Survey v Author's (2008) survey

21 vocational skills inventory – ranking and assessment of graduate competence

| Skill no. | | ranking of graduate competence | | | assessment of graduate competence | | |
|-----------|---|---------------------------------------|---------------|-----------------------------------|--|---------------|--------------------------------------|
| | | I | II | III | IV | V | VI |
| | N.B. Arquero Montano re-ranked after skill 22 was removed | Arquero Montano | Current Study | Difference in ranking, I-II (gap) | Arquero Montano | Current Study | Difference in mean score, IV-V (gap) |
| | | Employers | Educators | | Employers | Educators | |
| | <u>Communication skills</u> | Rank | Rank | | Mean | Mean | |
| 1 | Present & defend points of view & outcomes of their own work, <i>in writing</i> , to colleagues, clients and superiors (com1) | 12= | 5 | +7 | 2.39 | 1.86 | +0.53 |
| 2 | Present & defend points of view & outcomes of their own work, <i>verbally</i> , to colleagues, clients and superiors (com2) | 12= | 13 | -1 | 2.39 | 1.98 | +0.41 |
| 3 | Use of visual aids in presentations (com3) | 14 | 12= | +2 | 2.41 | 1.97 | +0.44 |
| 4 | Listen effectively to gain information & to understand opposing points of view (com4) | 8 | 12= | -4 | 2.31 | 1.97 | +0.34 |
| 5 | Critically read written works, making judgements on their relevance & value (com5) | 6 | 4= | +2 | 2.22 | 1.84 | +0.38 |
| | <u>Group working skills</u> | | | | | | |
| 6 | Work with others in teams (gws1) | 5 | 1 | +4 | 2.21 | 1.80 | +0.41 |

| | | | | | | | |
|----|---|----|----|-----|------|------|-------|
| 7 | Organize & delegate tasks (gws2) | 20 | 17 | +3 | 2.52 | 2.10 | +0.42 |
| 8 | Assume leadership positions when necessary (gws3) | 15 | 20 | -5 | 2.45 | 2.28 | +0.17 |
| | <u>Problem-solving skills</u> | | | | | | |
| 9 | Identify & solve unstructured problems (psk1) | 9 | 4= | +5 | 2.31 | 1.84 | +0.47 |
| 10 | Find creative solutions (psk2) | 10 | 18 | -8 | 2.34 | 2.13 | +0.21 |
| 11 | Integrate multidisciplinary knowledge to solve problems (psk3) | 16 | 19 | -3 | 2.46 | 2.15 | +0.31 |
| 12 | Perform critical analysis (psk4) | 11 | 7 | +4 | 2.38 | 1.92 | +0.46 |
| | <u>Pressure & time management</u> | | | | | | |
| 13 | Organize workloads to meet conflicting demands & unexpected requirements (ptm1) | 19 | 9= | +10 | 2.52 | 1.94 | +0.58 |
| 14 | Organize workloads to recognize & meet tight, strict, & coinciding deadlines (ptm2) | 18 | 6 | +12 | 2.48 | 1.89 | +0.59 |
| 15 | Select & assign priorities within workloads (ptm3) | 17 | 10 | +7 | 2.47 | 1.95 | +0.52 |
| | <u>Information technology</u> | | | | | | |
| 16 | Use relevant software (IT1) | 1 | 4= | -3 | 1.94 | 1.84 | +0.10 |
| 17 | Knowledge of information sources (IT2) | 2 | 9= | -7 | 1.95 | 1.94 | +0.01 |
| | <u>Other skills, values & knowledge</u> | | | | | | |
| 18 | Have a commitment to life-long learning (osv1) | 3 | 21 | -18 | 2.08 | 2.30 | -0.22 |
| 19 | Ability to develop methods of effective learning (osv2) | 4 | 15 | -11 | 2.09 | 2.04 | +0.05 |
| 20 | Awareness of social & ethical responsibilities (osv3) | 7 | 16 | -9 | 2.28 | 2.07 | +0.21 |
| 21 | Have knowledge of the accounting profession (osv4) | 21 | 14 | -7 | 2.55 | 2.01 | +0.54 |
| | Overall mean of the 21 Vocational skills | | | | 2.32 | 1.99 | +0.33 |

Scale for competence in skill:

1 = great competency; 2 = some competency; 3 = little competency; and 4 = no competency.

The difference between educators' and employers' perceptions of the competencies of graduates is defined as the 'graduate competence assessment gap' (b) (see Figure 3.1).

Educators consider that in general graduates have some vocational skill competency and have more competence than employers believe they have. Table 4.2 shows the educators' and employers' overall average scores for their perceived competencies of graduates' 21 vocational skills as 1.99 and 2.32 respectively. There are five skills identified in Table 4.2 with major graduate competence assessment gaps, larger than 0.5, ranging from 0.59 to 0.52.

All three pressure and time management skills (skills 13, 14 and 15) are identified as major ‘graduate competence assessment gaps’. Educators believe that graduates are much better at managing workloads than employers do. As commented on above, meeting accounting deadlines is critically important for employers, and so graduates’ pressure and time management skills will be a concern for them. Employers and educators also disagree on graduates’ level of knowledge of the accounting profession and this is identified as a major graduate competence assessment gap. However as this is employers’ eighteenth most important skill, employers are less likely to be concerned about this lack of graduate knowledge of the accounting profession. Written communication skills are also identified as a major graduate competence assessment gap. As explained above, this is employers’ second most important skill. Hence employers may be concerned about educators’ beliefs that graduates’ writing skills are much better than employers believe, because if this is case, educators may put in less effort in trying to improve the writing skills of undergraduates.

With regard to the evaluation of the *ranking* of graduate competence, the difference of opinion between the two groups is striking. The results of the employers’ and educators’ ranking of graduate competence in each of the 21 skills are shown in Table 4.2. The educators consider that the skill in which graduates have the greatest competency is, ‘work with others in teams (gws1)’. Employers rated team working as the graduates’ fifth best skill. Educators place three skills in joint fourth place in terms of graduate competence: ‘critically read written works... (com5)’; ‘identify and solve unstructured problems (psk1)’; and ‘use relevant software (IT1)’. As critical reading is the educators’ most important skill and problem solving is their third equal important skill, educators must believe that they are successful to some extent in prioritising the development of graduates’ competence in these two vocational skills. However, the corresponding assessment of graduate competence by employers of each of these three skills is sixth for critical reading (com5) and ninth for unstructured problem solving (psk1), while employers regard using software (IT1) as the graduates’ best skill. Employers think IT skills are graduates’ best skill set and consider ‘knowledge of information sources (IT2)’ as the graduates’ second highest skill. Educators rated graduate competence in this IT skill (IT2) as ninth equal. Employers rate the third best skill in terms of graduate competence as ‘have a commitment to life-long learning (osv1)’. Educators rated graduates’ commitment to life-long learning as twenty-first, their lowest skill exhibited. It is interesting to find that employers believe that graduates are much more committed to life-long learning than educators believe. Because students now pay fees for

their university education, Willmott (1995) and Tinker and Koutsoumadi (1997) lament that students consider a degree to be a commodity, a passport to a job, not as a liberal education preparing students for life. As educators rank graduates' commitment to life-long learning as the lowest of the 21 skills, it is quite likely that accounting educators think that students view university education as a job passport and are so are less interested in education for its own sake.

4.2.3 The education constraint gap

It is interesting to compare the educators' assessment of skill importance (column V in Table 4.1) and their perceived graduate competence in that skill (column V) in Table 4.2 above, to explore the size of the 'education constraint gaps' (see Figure 3.1 (c)). Educators' average score for importance of skill and graduate competence in that skill are very similar, and are 1.95 and 1.99 respectively. Hence in general educators believe that most of the 21 skills are important and that graduates have some competency in these skills: – there is congruence between what they think are the important skills for students to master and the skills that they believe that graduates have acquired. There are three skills that educators think are particularly important and where the gap between perceived graduate competence and importance are highest (the difference between columns V in Tables 4.1 and 4.2). These skills are also ranked as educators' top three skills (see Table 4.2) and are critical reading (com5), problem solving (psk1) and critical analysis (psk4); the gaps being 0.31, 0.25 and 0.33 respectively.

4.2.4 The expectation-performance gap

In a similar fashion to how the educators' assessment of skill importance and graduate competence has been compared, the employers' assessment of skill importance (column IV in Table 4.1) and employers' perceived graduate competence in that skill (column IV in Table 4.2) in that skill can be compared to reveal any 'expectation-performance gaps' (see Figure 3.1 (e)). Employers' average score for importance of skill and graduate competence in that skill are dissimilar – 1.53 and 2.32 respectively. In general, employers believe that most of the 21 vocational skills are more important than educators believe and employers also believe that graduates are less competent in these skills than educators think. As educators believe in general that vocational skills are less important than employers do, and that graduates are more competent than employers do, it is quite likely that educators will put less effort into developing graduates' vocational skills than employers would wish for and possibly expect.

5. Conclusions

5.1 Limitations and areas for potential research

There are limitations to this research. First this study focuses on the views of just three stakeholders in university accounting education, namely CIMA, practitioner employers and university educators. Although most of the practitioner employers interviewed are graduates themselves, this research study did not specifically examine the extent to which graduates in general are satisfied with their accounting education. Investigating the extent to which accounting graduates believe that their university education prepared them for professional accounting examinations and for their roles in employers' organisations would therefore represent a topic for future research. However, in doing such research, care would need to be taken to prevent bias or errors occurring in the data, especially if students were aggrieved about some issues within their university education. Therefore as this is potentially a research topic, it may well be necessary to envisage a suitable time period in the career span of graduates when such a study might take place.

Second, as noted, this paper focuses on one professional accountancy body, namely CIMA, one of the six chartered accountancy bodies in the UK and Ireland. In addition, while CIMA is an international management accounting body, this research focuses on the UK and Ireland where the majority of its membership and students are located. Another limitation is that only one CIMA official was interviewed to discover and explore the views of CIMA. It can be argued, however, that it is acceptable to consider the perspective of the CIMA official interviewed at the London headquarters as valid and reliable because he is a highly experienced and influential member of CIMA. In addition the CIMA Head of Training and Education held out Lee as a suitable interviewee. Lee was responsible for developing education and training for CIMA and had been employed by CIMA for many years; he was a former council member and is an accounting academic. Lee had been involved in the development of the four preceding CIMA examination structures and syllabuses. While gaining access to prominent individuals in a professional accountancy organisation such as CIMA can be very difficult, another possibility to consider is interviewing officials at the local CIMA branch level to investigate any extent to which the perspectives of local and national officials differ.

Third, as explained in section 3.2, the survey of university accounting educators that the author carried out in 2008 is designed to be comparable with Arquero Montano et al.'s (2001) survey. As there was seven year time period difference, practitioner employers' opinions on the essential knowledge and skill sets required by management accountants may have changed in this time. While six interviews of practitioner employers were conducted as part of this study in 2010–11, providing in depth up-to-date data, it would be useful to conduct another survey of practitioner employers to investigate whether their views had changed since Arquero Montano et al.'s (2001) survey.

Therefore, although this study has limitations, this is a complex, extensive and evolving research area and there is still much research that can and should be done.

5.2 Findings and implications

Despite the above limitations, this paper has established that there are expectation gaps between three stakeholder groups in university accounting education: educators, practitioner employers and CIMA. In addition to important disagreements about the role of university education, educators and employers also do not agree on the assessed level of competencies of graduates.

University accounting educators see themselves not just as technical trainers for the accounting profession and practitioner employers, but rather as promoters of critical thinking. Yet, while they emphasise the vocational aspect of accounting education, the accounting profession and employers also greatly value critical thinking and other high level skills. Therefore employers want educators to promote undergraduates' critical thinking and problem solving skills as well as promoting technical skills.

It can be argued that business schools are victims of their own success. Business schools have grown to become the 'cash cows' of HE by attracting large numbers of students. This growth has been achieved partly by business schools successfully gaining and maintaining accreditation of degree programmes in order to attract accounting students who want to become professional accountants. Thus university educators are to some extent dependent on the accounting profession because gaining exemptions is an important factor when accounting students are deciding which university degree programmes to apply for. Although educators wish to develop the whole range of knowledge areas and vocational skills,

including the highly valued critical thinking and problem solving skills, they struggle to do so because of the deteriorating SSR in business schools. Worse still, as a consequence of the increasing undergraduate numbers, educators are less able to concentrate on research related teaching and trying to produce critical thinkers, and have to concentrate more on knowledge transfer and the production of technicians. However, the employers interviewed were not satisfied with technical training provided by universities, or with the basic accounting knowledge that graduates with relevant degrees have. Hence it seems that the expansion of business schools has resulted in the diminution of educators' professional identity and their role as promoters of critical thinking.

The existence of expectation gaps between educators and practitioner employers and the accounting profession shows that the process of colonisation of university business schools has only been partly successful. If colonisation had been a total success, there would be no disagreement in terms of the importance ranking of vocational skills. University accounting educators still wish to pursue and protect their traditional liberal education agenda and to encourage the development of critical thinkers. However, the educational constraint caused by the deteriorating SSR makes it increasingly difficult for educators to achieve their own objectives or, even if educators wish to, to meet those of practitioner employers.

Notes

¹ For reasons of brevity, the research instruments, namely the interview questionnaires and the accounting educators' survey are not shown here. However a summary document describing these documents is available from the author.

² Department for Business, Innovation & Skills (2015, p.1) provides HE initial participation rates (HEIPRs) for '17–30 year old English domiciled first time participants to UK HE institutions and English, Welsh and Scottish FE colleges who remain in HE for at least 6 months'. 'The provisional HEIPR estimate for the 2013/14 academic year was 47%, up by four percentage points compared with the estimate for 2012/13 of 43%' (ibid.).

³ The Scottish Government (2015, p.1) notes that the Scottish HEIPR has increased from 53.1% when it was first calculated in 2006/7 to 54.7% in 2012/13.

⁴ The Northern Ireland (NI) Department for Employment and Learning (2016, p.1) reports that the NI Higher Education Participation Index for 2014/15 was 49.2%, down from its peak of 50.7% in 2009/10.

⁵ No HEIPR data for Welsh students is at present available for 2010/11 to 2012/13 (HEFCW, 2015, p.2)

⁶ Estimated using data from Financial Reporting Council (2016, p. 22, Figure 11).

⁷ CIMA has its own examinations: the CIMA Certificate in Business Accounting and then three CIMA Professional levels. However students can gain exemptions by passing the AAT Technician/Diploma level or by having a relevant degree.

⁸ QSR NVivo is a computer assisted qualitative data analysis software (CAQDAS). NVivo was used to code the interviews, to attach a label to section on text. Nodes are used in the author's research study to store coding about topics, concepts and themes. In the study there are 19 top level parent codes, covering topics, 12 of which were abbreviated labels referring to the main 12 questions that the accounting educators were asked.

⁹ The major differences between the approach taken in this study and that of Bui's and Porter's were:

- (i) the expectations of CIMA, the professional management accounting body are included;
- (ii) the educators' graduates competencies as perceived by educators are considered, instead of Bui's and Porter's competencies that educators can reasonably expect graduates to acquire, given university accounting education constraints;
- (iii) the current author's framework has a competence assessment gap, not Bui's and Porter's educators' performance gap;
- (iv) and the current study has a performance gap, but this gap, unlike Bui's and Porter's, consists of two sub-gaps: a constraints gap and a competence assessment gap.

¹⁰ A pseudonym used to protect the interviewee's identity.

¹¹ Arquero Montano et al's (2001) survey of CIMA practitioner employers used an 11 point Likert scale. As explained in section 3.2.1, the survey of university educators used a 4 point scale and the Arquero Montano survey is recoded into the same 4 point Likert scale as used in the survey of educators to enable a clear comparison between the two surveys to be made.

¹² The employers' range of average scores for the 21 vocational skills is $1.33 - 1.84 = 0.51$;
while the educators' range of average scores for the 21 skills is $1.53 - 2.43 = 0.90$.

¹³ Arquero Montano et al's (2001) survey of CIMA practitioner employers used an 11 point Likert scale. As explained in section 4.2.1, this vocational skills survey used a 4 point scale and the Arquero Montano survey is recoded into the same 4 point Likert scale as used in this survey of educators to enable a clear comparison between the two surveys to be made.

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