

## What skills and attributes does an accounting graduate need? Evidence from student perceptions and employer expectations.

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# **What skills and attributes does an accounting graduate need? Evidence from student perceptions and employer expectations.**

## **Introduction**

The accounting profession world wide has come under close scrutiny in the last decade as a result of a series of high-profile corporate failures changing technology and globalisation of the world economy. These change drivers have reduced the cost of information and increased the level of competition among organizations. This has resulted in a need for quicker and more decisive action by management, an emergence of new companies or industries and a requirement for new professional services and skills (Albrecht and Sack, 2000).

As a result employers are seeking a diverse range of skills and attributes in new graduates in order to maintain a competitive advantage despite the fact that many countries are facing a skills shortage in the area (Birrell, 2006). Recently, the training and education of accountants worldwide has been the subject of much debate and political struggle (Van Wyhe, 1994; Mohamed and Lashine, 2003). While capitalising on traditional strengths such as independence and concern for public interest, expectations of performance placed on accounting graduates are complex and demanding requiring them to develop broader skills and be committed to continuing professional development and lifelong learning (Cooper, 2002; Howieson, 2003).

A university education should lay the foundations for a lifelong commitment by graduates to learning and professional development (West, 1998). Claims that university students are ill equipped to begin professional practice and that universities should prepare their students with a more comprehensive range of skills, occupy the media almost every week causing a great deal of debate (Albin and Crockett, 1991; Hall, 1998; Mathews, 2000). Universities have responded by developing and articulating coherent policies and frameworks

to build graduate attributes within and across programs (Tempone and Martin, 2003). The accounting professional bodies in Australia have also recognised the critical importance of the development of generic skills and attributes for accounting graduates. Based on the work of Birkett (1993) professional bodies have produced Accreditation Guidelines for Universities making explicit their expectations of the generic (cognitive and behavioural) skill level of graduates. Graduate attributes being developed during accounting programs should now go well beyond disciplinary or technical knowledge and expertise and include qualities that prepare graduates as life-long learners; as 'global citizens'; as agents for social good, and for personal development in light of an unknown future (Bowden and Marton, 1998; Barrie, 2004).

Research has attempted to differentiate between the broader generic skills as opposed to the context-specific, technical and practical skills (Crebert, 2002; Ashbaugh and Johnstone, 2000) and the meaning of an attribute or skill as defined in an educational context and an accounting employment context (Holmes, 2001). Many writers internationally suggest that the gap between education and practice is widening requiring curriculum change (Bowden and Masters, 1993; Crebbin, 1997; Wiggin, 1997; Yap, 1997; Albrecht and Sack, 2000). In Spain and the UK the higher education systems are being revised to improve the quality of education and to reduce the expectations gap relating to employer demands (Hassell, *et al*, 2005). In summary, accounting educators worldwide are being urged to alter curriculum to produce accounting graduates with a broader set of skills and attributes encompassing more than purely technical accounting expertise (Braun, 2004).

While the requirements of professional bodies have been highlighted (CPA & ICAA, 2005; IFAC, 2006) and several studies examine the views of employers and practitioners in terms of the skills and attributes they require in entry level graduates (ACNeilson, 1998, 2000; Lee & Blaszczynski, 1999; Daggett & Liu, 1997; Hassal et al., 2005), there are few studies (Athiyaman, 2001) which acknowledge the views that students about to enter employment might have despite the fact that they are key stakeholders in the whole process. The question is:

what skills and attributes are perceived to be required of graduates by students and employers in today's business environment?

This study examines perceptions of graduating students about the skills and attributes they consider important to their career and the emphasis placed on development of these skills during their degree program. The study also examines the skills and attributes expected by a diverse group of employers and explores gaps between student perceptions and employer expectations.

## **2. Literature Review and Development of Research Questions**

Throughout the last decade the skills agenda (Holmes, 2000) has been widely debated. Many studies have cast a broad net in terms of the stakeholder groups but examined generic skills not necessarily specific for accounting graduates or the accounting profession (Bennett *et al.*, 2000; Crebert, 2002; Leggett *et al.*, 2004; ACNielsen Research Services, 2000). Within the profession competitive pressures and technology have led to expectations that accounting graduates demonstrate additional competencies with increasing importance given to non-accounting capabilities and skills. These capabilities and skills are important because they “enable the professional accountant to make successful use of the knowledge gained through education” (IFAC, 1996, p.16). Several researchers have indicated that while technical skills are still regarded as implicit in the skills base of a person entering an accounting career, accounting and business students must develop more than technical skills to succeed (Aiken, Martin, and Paolillo, 1994; Deppe, Sonderegger, Stice, Clark and Streuling, 1991; Watty, Cahill and Cooper, 1998) and it is ‘personal characteristics’ that enable career success (Agyemang and Unerman, 1998; Mathews, *et al.*, 1990; DeLange *et al.*, 2006).

Elliott and Jacobson (2002) suggest that accountants need education in complementary bodies of knowledge such as organisational behaviour, issues in strategic management, measurement and analytical skills, while Mathews (2004) suggests an interdisciplinary curriculum at university. Others argue that university educators of future professional

accountants should be committed to developing the relevant attributes identified as desirable for the professional practice of accounting (AAA, 1986; AECC, 1990; IFAC, 2006). Howieson (2003) sees the focus of the future accounting professional being the management of knowledge and adapting the education of accounting professionals to capitalise on that.

These views are supported by de la Harpe et al (1999) who advocate integrating professional skills across disciplines. Whether it is better to develop these skills within the classroom or within the context of coming to know the discipline (Laurillard, 1984; Boud and Feletti, 1991) is the focus of much debate.

Globally, professional reports express concern that accounting education over-emphasises the technical abilities of graduates to the detriment of other competencies and suggest the need for alternative instructional strategies such as case-based methods, seminars, role-plays, and simulations to engage students in the learning process and develop skills such as creative and critical thinking (AAA, 1986; AECC, 1990; IFAC, 1996; Adler and Milne, 1997a). Many researchers have recommended abandoning a wholly procedural (technical) approach to financial accounting (Albrecht and Sack, 2000; Herring and Williams, 2000; Needles and Powers, 1990; Zeff, 1989; Bonk and Smith, 1998). Hunton (2002) argues that many traditional accounting tasks can be reliably automated supporting claims that an accountant's worth is now increasingly reflected in higher-order skills such as critical-thinking, problem solving and analytical skills.

In contrast, some feel that it is unrealistic for universities to attempt to guarantee that graduates will possess the necessary generic skills to meet the demands of employers especially across a range of disciplines (Clancey and Ballard, 1995; Cranmer, 2006). However, Albrecht and Sack (2000, p. 55) stressed the importance of skill development during accounting programs and stated that: "Students forget what they memorise. Content knowledge becomes dated and is often not transferable across different types of jobs. On the

other hand critical skills rarely become obsolete and are usually transferable across assignments and careers”.

Gabric and McFadden (2000) investigated students’ perceptions of the expected marketable skill base (Gabric and McFadden, 2000) finding that students agree that developing ‘personal transferable skills’ such as communication and time management which can be used in a “...wide variety of career-related situations” is not only important for making them more employable but is also a “...fundamental part of achieving...a good education” (Haigh and Kilmartin, 1999, p1; p.203). As far as future career prospects were concerned, students rated developing teamwork and public presentation skills as the most important learning outcomes of the course and emphasised the development of skills to equip graduates for learning, work and life. This view is supported by Candy *et al.* (1994) and developed further by Jones and Sin (2003) who emphasise that students must be prepared to be life long learners with a focus on developing attributes and skills over a lifetime of professional, social and cultural experience. The focus must not be on the development of specific skills, but rather the ability to develop, change, and renew skills and knowledge throughout life (Crebbin, 1997).

While universities have responded to the challenge of the ‘skills agenda’ in a variety of ways, Athiyaman (2001) found that students felt that universities were still not delivering in terms of the development of those skills and attributes they considered important to their careers. This led to the development of the following research questions:

RQ1: What professional skills do graduating accounting students perceive as having the highest priority for career success?

RQ2: To what extent do graduating accounting students perceive that these professional skills have been developed as part of their degree programs?

In general, the professionally sponsored educational change literature has recommended the broadening of the accounting curriculum to include those competencies reported by Albrecht and Sach (2000) namely analytical/critical thinking, written

communications, oral communications, computing technology and decision making. In Australia, DETYA (2000) reported a survey of employer satisfaction with the learning of new university graduates finding that there were perceived skill deficiencies in important areas such as problem solving, creativity and flair, and oral business communications. Further, Lee and Blaszczynski (1999) report that while employers felt that accounting knowledge and the ability to use accounting information was an important skill, they expected accounting students to learn a multitude of skills including being able to communicate, work in a group environment, solve real-world problems, use computer and Internet tools. Employers are looking for graduates who have work and life skills and are especially wanting graduates who have, amongst others, well developed communication, team-work and problem-solving skills (ACNeilson, 1998, 2000). A major study of management accounting by Siegel & Sorenson (1999) resulted in employers to identifying communication (oral, written and presentation) skills, ability to work on a team, analytical skills, solid understanding of accounting, understanding of how a business functions as being important for success.

Many writers have reinforced the view that oral and written communication skills are considered to be the two most important skills (Clark, 1990; Nelson *et al.*, 1996; Deppe *et al.*, 1991; Novin and Tucker, 1993; Morgan, 1997; DeLange *et al.*, 2006). However, Mangum (1996) indicated that one of the greatest shortcomings of job candidates reported by employers was poor communication skills. This was supported by Borzi and Mills 2001 who discovered a significant level of communication apprehension in upper level accounting students suggesting the need for change to how this particular skill is developed within the curriculum.

Daggett and Liu (1997) surveyed 92 employers of new accounting graduates about their work force readiness finding them to be least prepared in writing, presenting, and interactive skills, and best prepared in the competencies of entering, retrieving, and analysing data. The challenge of delivering graduates with a more extensive skill set is highlighted in a recent European study (Hassal *et al.*, 2005). Their research points to similar employer demands for

skills beyond the necessary technical accounting skills, but reported at the same time that employers were unsympathetic with claims from universities that they had limited capacity to deliver on these greater demands. This led to research question 3:

RQ3: What professional skills do employers expect accounting graduates to possess at entry level?

The literature highlights the fact that often employers and students have different perspectives about the nature of the 'professional skills' that are required for a successful accounting career. In a large study conducted in 1993, Kim, Ghosh and Meng report that the three most important criteria used by employers for selecting accounting graduates are the graduates' motivation or interest in the job, personal qualities and communication skills. However, accounting graduates perceive examination results to be the most important criterion used by employers followed by personal qualities and communication skills.

Radhakrishna and Bruening (1994) compared undergraduates' and employers' perceptions of the importance of skills across five broad areas of interpersonal, communication, technical, computer and business-economic skills. They found that students consistently ranked all areas higher in importance than their potential employers. In another study involving undergraduate business students and employers, Gabric and McFadden (2000) found that both students and employers ranked verbal communication, problem-solving and listening skills as the top three general business skills, but for other skills there were clear differences.

It follows that while a shift in emphasis to non technical skills is becoming more pronounced, perceptions and expectations of different stakeholders are not aligned. Leveson (2000) suggests that in industry, particularly in business, oral communication is the key communication skill while at university written communication receives much more attention. Further, the lack of a shared vocabulary between education and work contributes to the difference in the relative importance of key generic skills between industry and university. It appears that there may be a perception gap between what employers and accounting graduates



consider to be important selection criteria. As Gati, 1998 suggests employers may prioritize skills that are not central to graduates thereby affecting their efforts to secure entry level graduates who fit their organizational environment. This led to the final research question:

RQ4: What is the difference between student perceptions and employer expectations in terms of the professional skills that are important for a career in accounting?

### **3. Methodology**

#### **3.1 Sample**

We conducted a study involving data collection from 322 graduating students in three universities in Australia <sup>1</sup> and 28 practitioners across a number of organizations and industries who employ accounting graduates.

In Institution 1, 172 students were studying either Bachelor of Commerce or a dual degree with Bachelor of Commerce. Of the 160 students who nominated their major 56% were studying an accounting major, with finance (37%) and international business (7%) being the most popular second major. In Institution 2, all students were studying an accounting major as part of a Bachelor of Commerce or Masters in Accounting with finance the most popular second major. The students in Institution 3 numbered 120 and were studying either a Bachelor of Business or a dual degree with business and 68% were studying an accounting major. In terms of preferred employment after graduation accounting, finance, audit, law and taxation were the preferred areas.

#### **3.2 Data Collection**

Both quantitative and qualitative (Minichiello *et al.*, 1995) data collection methods were employed.

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<sup>1</sup> The universities were public and private institutions and differed in terms of size, approach and focus. They were selected to allow a more representative cross section of student participants in order to avoid bias and support generalisable findings.

### *Quantitative Measures*

The quantitative study involved the same survey being administered to the student cohorts during lectures. The Albrecht and Sach (2000) survey instrument was adopted because it had been validated previously in a large US study. Minor refinements were made for the Australian context and to include areas highlighted by students in pilot focus groups. The survey consisted of 3 sections:

*Section 1* asked students to rate on a scale ranging from 1 (Strongly Agree) to 5 (Strongly Disagree) statements about the importance of studying various programs in accounting and business.

*Section 2* required students to rate 47 specific skills/attributes on a scale ranging from 1 (no priority) to 5 (top priority) in relation to (a) importance to their future careers and (b) the level of priority they perceived had been given to developing these skills during their degree program.

*Section 3* requested demographic information from the students relating to the type of program and the majors they were studying and their intended career path.

### *Qualitative Measures*

A qualitative study to assess the expectations of employers and to focus on processes occurring in practice as explained by those directly involved (Miles and Huberman, 1994) was conducted. During focus groups and individual meetings a semi-structured interview approach was adopted allowing all participants to respond to the same set of questions (Carruthers, 1990). Interviews and focus groups were taped and transcribed to generate facts, opinions, and insights (Yin, 1984). Two independent raters (M and N) assessed the transcripts and identified and ranked on a scale of 1 (no discussion) to 5 (much discussion) the attributes and skills that employers considered important. The rankings were then summed to produce a score for every attribute resulting in two sets of combined 'importance' scores (Tashakkori and Teddlie, 1998). Discussions between the raters and the investigators resolved any differences which became apparent. The reviews were designed to acknowledge that while

“generalizations across individuals are of value, it is important that the individual’s unique experience is not lost” (Ashworth and Lucas, 2000, p. 304).

## **4. Results and Discussion**

### **4.1 Descriptive statistics**

Mean scores for statements about the value and relevance of accounting education in the students’ own universities are included in Table 1. Students felt that a core accounting major is a strength of any business or commerce degree (mean score 4.22) and a more attractive major than information systems (4.08), but were less emphatic about accounting being a more attractive major than finance (mean score 3.55). There was moderate agreement with the statements that accounting education is sufficiently integrated with other business disciplines and is keeping up with what is occurring in the business environment (mean scores 3.72, 3.75 respectively). While there was agreement that undertaking a dual degree with commerce or business was beneficial (mean score 3.82), students indicated a greater preference for completing post graduate studies in the professional programs (mean score 3.77) than an honours or masters program (mean score 2.58). Interestingly, there was some significant difference between institutions on some points e.g. respondents from institution 1 were more likely to undertake professional study and higher degrees than those from Institution 2. While students from institution 2 felt that accounting and business education was keeping up with the business environment, their opinion was different from those in institution 1. This could be explained by the focus adopted by institutions with institution 2 having an applied/practical focus.

*Insert Table 1 here*

### **4.2 Research Question 1**

According to the absolute ratings in Table 2, students indicated that while they felt all of the skills listed in the survey were of moderate or greater importance, continuous learning (being up to date) was rated most important to future careers. Next in line in order of ranking

were decision making, oral communication, analytical and problem solving, critical thinking, self motivation/self direction, professional attitude, teamwork (group interaction), computer literacy and written communication. These skills were closely followed by strong work ethic, values (integrity, respect for others), flexibility and appreciation of cross cultural diversity.

*Insert Table 2 here*

The same skills also figured prominently in responses to a question at the end of the survey which asked students ‘to nominate or summarise the three most important qualities that they should possess for a successful career’. Communication, analytical, leadership, teamwork and self motivation/self direction skills were respectively rated as the top skills.

In order to add richness to the discussion and reduce the complexity of the findings further analysis of the data relating to the skills set was conducted. Using SPSS Version 14 factor extraction on the 47 variables was performed using principal components analysis with varimax rotation (Tabachnick and Fidell, 1996; Field, 2000). Eight factors or components emerged which collectively explained 63.65% of the variance among the items.

*Insert Table 3 here*

Table 3 displays the loadings for each item on the eight components. Commonalities for all items in each component are greater than .51 indicating that each contributed to the component analysis. Examination of the components was based on the cognitive and behavioural skills areas outlined in Figure 1 by Jones and Sin (2003)<sup>2</sup>. Eight factors emerged and were labelled: Personal and communication, cultural sensitivity, interpersonal and leadership, promotional, analytic/design, appreciative, routine accounting, and ethics. The first six factors have been identified as representing the skills which students perceived as being important to their careers with the cronbach alpha scores for routine accounting and ethics suggesting these factors be eliminated.

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<sup>2</sup> These skills areas were based on Birkett’s Competency Based standards for Professional Accountants in Australia and New Zealand Discussion Paper (1993).

In answer to research question 1, from the students' perspective and in line with Morgan (1997) and Jones and Sin (2003) the skills nominated as most important to their career related to personal and communication skills (including self motivation, professional attitude, oral and written communication, teamwork and values); analytic/design skills (including analytical and problem solving); appreciative skills (including decision making and critical thinking) and leadership and interpersonal skills. Of interest is the perception by students that cultural sensitivity is a skill necessary for their future careers.

#### **4.3 Research Question 2**

Research Question 2 was designed to gauge the perceptions of students concerning the level of priority they perceived had been given to the development of the professional skills during their program. A series of *t*-tests was carried out to assess whether the mean ratings for the level of importance to career and the level of priority given to development of these skills during degree programs was significantly different. As can be seen in Table 2 results for all skills (except technical bookkeeping and research) were significantly negatively different. That is, students across all three institutions felt that there was not enough emphasis placed on the skills they perceived as being necessary to their career in the programs that were delivered.

With regard to the skills that students rated as being highly important (the top 12), the most significant gaps were in terms of self motivation, professional attitude, oral communication, decision making and continuous learning. Written communication was the only skill that came close to matching student expectations in terms of the mean scores recorded (importance 4.07, delivered 3.78). The largest gaps occurred for accounting software skills, self promotion/motivation, negotiation, leadership and customer service.

Factor extraction on the ratings of 47 variables delivered was performed using principal components analysis with varimax rotation (Tabachnick & Fidell, 1996; Field, 2000). Seven factors or components emerged which collectively explained 62.74% of the variance among the items as described in Table 4.

*Insert Table 4 here*

Again the commonalities for all items in each component are greater than .51. Comparison with the skills defined in the five areas listed by Jones and Sin (2003) with those which loaded on the seven factors produced in this research resulted in similar definition for three of the seven factors which were labelled: Routine, Personal and Appreciative. Four other factors also emerged from the data and these were labelled Cultural Sensitivity, Research and Logic, Strategic Management and Communication. These seven factors have been identified as representing the skills which students believed had been delivered or emphasised as part of their degree program and cronbach alpha scores support reliability.

While there are similarities between the skills which students perceived to be important to their careers and those skills which were emphasised during their degree programs (routine, personal, appreciative, cultural sensitivity and communication), the level of priority given to most skills during degree programs fell way short of student expectations when *t* scores in Table 2 are examined.

In response to Research Question 2, with the exception of basic accounting and research skills, students did *not* perceive that an appropriate level of priority had been afforded to developing skills that they perceived as being important to their careers.

#### **4.4 Research Question 3**

Research question 3 was designed to investigate ‘what professional skills employers expect accounting graduates to possess at entry level’. Employers from accounting (professional services), commerce and industry, and government commented on what attributes (accounting technical and other) they felt were valuable in the graduates they hired from university and which attributes they considered important for accountants in the future.

Table 5 reveals the results of the identification of skills and ranking process by the two independent raters M and N. The extent of overlap between the two raters’ findings is considerable, although the importance rankings between the two did differ in the case of some

skills. Combined scores for the two raters revealed the top three skills required by employers were analytical/problem solving, business awareness/real life experience and basic accounting skills. During focus groups employers indicated that they should be able assume that basic accounting skills and analytical skills should be in place in every accounting graduate. Sadly some felt this was not always what they encountered and graduates rarely had much business awareness or real life experience which was highly valued.

*Insert Table 5 here*

There was also demand for oral communication skills, ethical awareness/professional skills, teamwork, written communication and a ‘whole of business’, contextual or interdisciplinary approach to the information that accounting outputs provide. Employers emphasised the need for graduates to develop interpersonal skills and be aware of the need for continuous learning in order to be up to date with a changing, increasingly global environment.

#### **4.5 Research Question 4**

Research Question 4 was designed to investigate whether ‘a difference between student perceptions and employer expectations’ existed ‘in terms of the professional skills that are important for a career in accounting’. Results in Table 5 indicate that while there is some commonality between perceptions of students and expectations of employers, some significant gaps still exist. While both groups acknowledged the importance of analytical/problem solving skills, oral and written communication skills, teamwork and continuous learning, the rankings given by both groups to each skill were very different (with the exception of oral communication). There was also notable gaps on other skills such as business awareness, ethics/fraud/professionalism, basic accounting which were all ranked very highly by employers but not mentioned by students. In terms of the generic skills proposed by Jones and Sin (2003, p.63) in Figure 1, understandably students were still concentrating on increasing technical skills through continuous learning and improving thinking, appreciative and personal skills such as decision making, critical thinking and self motivation. Employers on the other hand

were far more focussed on strong background knowledge skills and growing experience of life and work preferring general business awareness, knowledge of ethics and the profession, an ability to work across disciplines and interpersonal skills. In summary employers are expecting graduates to be far more 'job ready' than is actually the case resulting in noticeable gaps between graduating students' perceptions of what will be required of them at entry level and the expectations of employers.

## **5. Limitations**

Because our observations were limited to only three institutions, we must be cautious in interpreting our findings and in suggesting their generalisability. As a means of data collection, questionnaire response rates may be affected by negative or apathetic attitudes towards this form of data collection particularly in large organisations.

It is acknowledged that the information presented in this paper is from an analysis of the notes and transcripts of interviews conducted with persons from different employer groups. Interviews as used in this study provide information on reported behaviour, attitudes and beliefs. Despite the fact that the process followed Carr and Kemmis's (1986) criterion for action research with participants asked the same questions, interaction with participants during interviews may contribute to the final outcome. While sampling was random, in an attempt to be representative, it is not claimed that these views are indicative of the views of all employers of accounting/business graduates. As this qualitative study is part of a larger research project findings are synthesised with those of the quantitative studies to provide a more complete picture. This approach also allows cross-validation of key findings (Brannen, 1992).

When evaluating data collected it has to be remembered that data yielded by different techniques differ in kind (Shrout & Fleiss, 1979). While most measurements in the behavioural sciences involve measurement error, judgments made by humans are especially prone to error. In order to overcome this, a case has been made for the use of aggregated data when they meet such criteria as inter-rater agreement James (1982).



Finally, the demographic data could have included information on prior life experiences that may have influenced respondents perceptions of the professional skills required.

## **6. Conclusion**

Students are a key stakeholder group when it comes to examining views about developing skills and attributes to equip them for a career in the accounting profession. The findings of this study reveal that students rated continuous learning as the most important skill to future careers and in terms of the Jones and Sin (2003) model, were focussed on developing routine technical expertise, oral and written communication skills, analytical and problem solving skills and appreciative skills including decision making and critical thinking. Indicative of their stage of life, students focussed on ongoing development of personal skills such as professional attitude, self motivation, leadership and the ability to work in a team.

What is of concern however is the emphasis currently being placed during accounting programs on skills that students regard as important. It would appear that the only skills being delivered in accordance with the expectations of students in this study are routine accounting and research skills. Since student motivation to learn and acquire skills is often driven by perceptions about the relevance of these skills to their careers, the findings of the paper have important implications for accounting educators.

With regard to employers, they are expecting graduates entering the profession to have as the top three skills analytical/problem solving skills, a level of business awareness or real life experience and basic accounting skills. Employers also expect oral communication skills, ethical awareness and professional skills, teamwork, written communication and an understanding of the interdisciplinary nature of business. In accordance with the Jones and Sin (2003) model, employers are requiring more 'background knowledge', life experience and work related skills. As these expectations have been advocated by employers for some time, it continues to send a strong message to accounting educators in terms of the need to adapt accounting curriculum by incorporating, for example, work integrated learning into programs.

The results indicate that there is some agreement between students and employers in terms of the skills required for success in a career in today's business/accounting world i.e. analytical/problem solving skills, oral and written communication skills, teamwork and continuous learning. There is however a difference in terms of how each group ranks each skill. In addition while both students and employers rank oral communication as being highly valued, the emphasis in accounting programs is still on written communication, a view supported by Leveson (2000), and many of the skills and attributes considered important by both groups are not given the desired level of priority during accounting programs. This difference would support research claims that accounting graduates are not well-equipped to take an immediate role within many employers' businesses and must be, in some cases, trained quite extensively before they become fully functional.

Perhaps it is unrealistic to expect that graduates will possess the range of skills required by employers (Cranmer, 2006). Employers must understand, as students do, that learning is a continuous process and many of the higher order skills that they expect can only be developed with guidance 'on the job'. Leveson's finding that there is a lack of shared vocabulary between industry and education might explain the relative lack of commonality between the skills and attributes that students perceive as being important and the ones employers expect. As Gati (1998) observes if employers continue to prioritize skills that entry level graduates do not possess then their efforts to secure satisfactory employees may not be very fruitful.

Given the expectations of students and the requirements of employers a much higher level of attention needs to be given to the skills and attributes being prioritised and delivered in accounting programs if accounting graduates are to survive in today's global business environment. Without a doubt the skills debate will continue to rage. Any extension of this research should include more studies on the perceptions of graduates already employed in industry and academics and professional bodies who play a huge and very important role in producing curriculum to help develop these skills in future accounting professionals.

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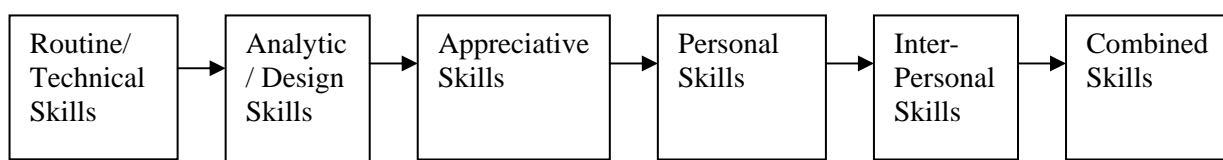
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**Figure 1: Generic skills in the Core Curriculum in Accounting**

Question:		Institution: N = 172   30   119			Combined N = 321		Significant differences only (p=)		
		1	2	3	Mean	Std Dev'n.	1 vs. 2	1 vs. 3	2 vs. 3
1	Accounting is a more attractive major than finance	3.3	3.67	3.89	3.55	1.23		0.000	
2	Accounting is a more attractive major than information systems	3.99	4.17	4.19	4.08	1.19			
3	The various majors (i.e. finance, accounting, marketing, information systems) are too isolated from each other	2.63	3.00	3.14	2.85	1.16	0.093	0.000	
4	Accounting education is sufficiently integrated with other business disciplines	3.61	3.6	3.92	3.72	1.04		0.008	
5	A core accounting major is a strength of any business or commerce degree	4.20	4.1	4.27	4.22	0.92			
6	After graduation, I intend to undertake studies in professional programs in accounting	3.69	4.23	4.51	4.05	1.49	0.080	0.000	
7	I intend to undertake post graduate studies i.e. honours, masters	2.58	3.33	3.40	2.96	1.63	0.012	0.000	
8	Undertaking a dual degree with commerce or business is very beneficial	3.79	4.03	3.83	3.82	1.27			
9	Accounting and business education in Australia today is keeping up with what is actually occurring in the business environment	3.48	3.73	4.14	3.75	1.23		0.000	0.034

(Scale: 1 = strongly disagree, 5 = strongly agree)

**Table 1: Student perceptions about the value and relevance of accounting degrees at their own universities**

	<b>Considered Important</b>	<b>Extent Developed</b>	<b>Diff.</b>	<b>Significance of diff.</b>
Acc. Software skills	3.83	2.84	-0.99	0.000
Self Promotion	3.49	2.57	-0.91	0.000
Negotiation	3.85	2.98	-0.87	0.000
Leadership	3.89	3.04	-0.85	0.000
Company Promotion	3.50	2.67	-0.82	0.000
Customer Service	3.71	2.89	-0.82	0.000
Self Motivated	4.11	3.29	-0.82	0.000
Foreign Language	3.07	2.28	-0.80	0.000
Entrepreneurship	3.57	2.79	-0.78	0.000
Professional Attitude	4.10	3.32	-0.78	0.000
Oral Communication	4.18	3.41	-0.77	0.000
Work Ethic	4.04	3.28	-0.76	0.000
Creativity	3.78	3.03	-0.75	0.000
Interpersonal Skills	3.85	3.11	-0.75	0.000
Flexibility	3.90	3.17	-0.73	0.000
Decision Making	4.19	3.51	-0.68	0.000
Listening	3.69	3.02	-0.67	0.000
Cross Cultural Comm.	3.35	2.70	-0.65	0.000
Interdisciplinarity	3.87	3.25	-0.63	0.000
Computer Tech Competence	3.68	3.05	-0.63	0.000
Continuous Learning	4.25	3.63	-0.62	0.000
Independent Thought	3.93	3.31	-0.61	0.000
Citizenship	3.18	2.59	-0.60	0.000
Tenacity	3.81	3.21	-0.60	0.000
Values	3.96	3.37	-0.59	0.000
Computer Literacy	4.06	3.49	-0.58	0.000
Cultural Sensitivity	3.36	2.79	-0.57	0.000
Risk Propensity	3.35	2.78	-0.57	0.000
Project Management	3.72	3.16	-0.55	0.000
Change Management	3.44	2.90	-0.54	0.000
Risk Analysis	3.72	3.18	-0.54	0.000
Problem Solving	4.19	3.66	-0.53	0.000
Critical Thinking	4.11	3.62	-0.49	0.000
Analytical	4.06	3.57	-0.49	0.000
Ethical Awareness	3.79	3.30	-0.48	0.000
Resource Management	3.58	3.13	-0.45	0.000
Decision Modelling	3.63	3.18	-0.45	0.000
Teamwork	4.10	3.66	-0.44	0.000
Logical Argument	3.97	3.54	-0.43	0.000
Social Justice	3.36	2.93	-0.43	0.000
Strategic Management	3.64	3.23	-0.41	0.000
Cross Cultural Appreciation	3.19	2.82	-0.38	0.000
Read w. Understanding	3.91	3.55	-0.36	0.000
Written Communication	4.07	3.78	-0.29	0.000
Measurement	3.66	3.37	-0.29	0.000
Research	3.57	3.51	-0.06	0.365
Technical/B'keeping	3.65	3.62	-0.04	0.498

[Scale: 1 = No priority, 5 = Top Priority]

**Table 2: Student Mean Emphasis Ratings for Skills – Importance to Career vs. Extent Delivered**

Factor Names		Component							
		1	2	3	4	5	6	7	8
Personal and Communication <i>Cronbach <math>\alpha = 0.837</math></i>	Written Communication	<b>.713</b>	.033	.095	.083	.198	.078	.142	-.004
	Teamwork	<b>.685</b>	.064	.118	.085	.105	.110	-.136	.109
	Oral Communication	<b>.637</b>	.182	.462	.013	.003	.235	.029	-.061
	Values	<b>.622</b>	.018	.147	.257	.289	-.122	.082	.362
	Tenacity	<b>.578</b>	-.019	.277	.261	.187	.024	.038	.300
	Work Ethic	<b>.541</b>	-.017	.058	.306	-.010	.233	.233	.241
	Problem Solving	<b>.516</b>	.040	.228	.129	.238	.336	.171	-.267
Cultural Sensitivity <i>Cronbach <math>\alpha = 0.802</math></i>	Cross Cultural Communication	-.057	<b>.866</b>	.081	.065	.044	.133	.076	.075
	Cultural Sensitivity	.118	<b>.799</b>	.111	.065	.064	.115	-.099	.268
	Cross Cultural Appreciation	.111	<b>.781</b>	-.079	-.020	.054	.013	.082	.050
	Foreign Language	.005	<b>.673</b>	.185	.186	-.032	-.179	.138	-.061
Leadership and Interpersonal <i>Cronbach <math>\alpha = 0.730</math></i>	Leadership	.159	-.056	<b>.678</b>	.158	.173	.110	.060	.230
	Negotiation	.313	.184	<b>.648</b>	.027	.183	.126	.078	-.161
	Interpersonal	.217	.148	<b>.599</b>	.030	-.057	.236	-.019	.249
	Measurement	.159	.043	<b>.589</b>	.082	.303	.060	.288	.034
Promotional <i>Cronbach <math>\alpha = 0.665</math></i>	Self Promotion	.227	.152	.091	<b>.859</b>	.056	.134	.037	.030
	Company Promotion	.223	.120	.108	<b>.844</b>	.158	.068	.142	.054
Analytical & Design <i>Cronbach <math>\alpha = 0.880</math></i>	Resource Management	.125	.022	.192	.167	<b>.744</b>	.071	.102	.133
	Research	.249	.109	.059	-.129	<b>.716</b>	.078	.014	-.063
	Risk Analysis	.129	-.013	.146	.335	<b>.613</b>	.195	.104	.158
Appreciative <i>Cronbach <math>\alpha = 0.645</math></i>	Critical Thinking	.072	.034	.296	-.010	.092	<b>.715</b>	.106	.105
	Analytical	.148	.035	.077	.150	.320	<b>.675</b>	-.101	.049
	Continuous Learning	.230	.018	.086	.167	-.078	<b>.622</b>	.383	.121
Routine Accounting <i>Cronbach <math>\alpha = 0.495</math></i>	Technical Bookeeping	.116	.081	-.104	.103	.010	.107	<b>.744</b>	-.107
	Accounting Software	.148	.059	.189	-.045	.203	-.008	<b>.670</b>	.193
	Computer Technology	-.164	.069	.318	.129	.016	.081	<b>.523</b>	.062
Ethical <i>Cronbach <math>\alpha = 0.498</math></i>	Ethics	.308	.199	-.048	-.086	.111	.244	.115	<b>.662</b>
	Listening	.033	.171	.305	.170	.069	.051	.021	<b>.643</b>

Extraction Method: Principal Component Analysis with Varimax Rotation  
8 orthogonal factors explain 63.65% of variation in the data

**Table 3: Graduate Attributes and Skills Considered Essential to Career by students**

Factor Names		Component						
		1	2	3	4	5	6	7
Routine (essential to role) <i>Cronbach <math>\alpha</math> = 0.842</i>	Company Promotion	<b>.752</b>	.335	.024	.039	.232	.071	-.011
	Self Promotion	<b>.744</b>	.369	.110	.083	.211	.050	-.068
	Accounting Software	<b>.671</b>	.007	.211	.224	-.021	.212	.193
	Risk Propensity	<b>.573</b>	.151	.241	.076	.277	.153	.057
	Foreign Language	<b>.567</b>	.236	.407	.033	-.012	-.086	-.022
	Project Management	<b>.529</b>	.180	.065	.118	.099	.263	.149
	Computer Technology	<b>.527</b>	-.081	.245	.152	.241	-.045	.292
Personal <i>Cronbach <math>\alpha</math> = 0.805</i>	Self Motivation	.270	<b>.698</b>	.152	.028	-.062	.204	.123
	Work Ethic	.197	<b>.695</b>	.085	.051	-.022	.087	.318
	Values	.052	<b>.650</b>	.161	.299	.195	.270	-.022
	Tenacity	.213	<b>.621</b>	.038	.256	.171	.168	.088
	Social Justice	.175	<b>.605</b>	.127	.146	.236	.018	.015
Cultural Sensitivity <i>Cronbach <math>\alpha</math> = 0.850</i>	Cross Cultural Communication	.278	.071	<b>.835</b>	.084	.123	-.009	.112
	Cultural Sensitivity	.192	.145	<b>.818</b>	.135	.076	.027	.059
	Cross Cultural Appreciation	.076	.154	<b>.777</b>	.077	.210	.099	.091
Communication <i>Cronbach <math>\alpha</math> = 0.725</i>	Teamwork	.132	.207	.118	<b>.796</b>	.060	.027	.079
	Oral Communication	.280	.129	.137	<b>.701</b>	.041	.156	.199
	Written Communication	-.052	.275	.031	<b>.532</b>	.052	.448	.142
Strategic Management <i>Cronbach <math>\alpha</math> = 0.715</i>	Decision Modelling	.063	.055	.148	-.056	<b>.755</b>	.044	.237
	Change Management	.281	.072	.351	.012	<b>.630</b>	.050	.056
	Risk Analysis	.432	.164	-.009	.116	<b>.568</b>	.093	.010
	Strategic Management	.213	.274	.078	.379	<b>.534</b>	.085	.003
Research & Logic <i>Cronbach <math>\alpha</math> = 0.665</i>	Reading for Understanding	.170	.261	-.017	-.056	-.040	<b>.748</b>	.186
	Logical Argument	.098	.109	.023	.125	.220	<b>.747</b>	.163
	Research	.146	.094	.095	.394	.001	<b>.583</b>	-.029
Appreciative <i>Cronbach <math>\alpha</math> = 0.673</i>	Continuous Learning	.177	.152	.035	.007	.045	.075	<b>.760</b>
	Critical Thinking	.094	-.054	.149	.277	.046	.224	<b>.711</b>
	Decision Making	-.067	.309	.070	.074	.244	.090	<b>.641</b>

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.  
7 orthogonal factors explain 62.74% of variation

**Table 4: Factors of Attributes & Skills Delivered during degree program - Students**

Raters' rankings of most discussed attributes	Rater		Overall Ranking Employers	Overall Ranking Students
	N	M		
Analytical skills/ problem solving	1	1	<b>1</b>	<b>4</b>
Business awareness/'real life' experience	2	4	<b>2</b>	
Basic accounting skills	3	2	<b>3</b>	
Ethics/fraud awareness/professionalism	4	5	<b>5</b>	
Communication-oral/face to face	5	3	<b>4</b>	<b>3</b>
Communication-written	6	12	<b>7</b>	<b>10</b>
Interdisciplinarity - able to work across/knowledge of other disciplines	7	10	<b>8</b>	
Teamwork/cooperation/participation	8	6	<b>6</b>	<b>8</b>
Inter-personal/facilitation/ skills	9	10	<b>9</b>	
Continuous learning/keeping up to date /refresh basic skills	10		<b>10</b>	<b>1</b>
Business-understanding, processes, management practices		7		
Flexibility		8		
Systems knowledge-account. software, MYOB, Quicken, Microsoft etc		9		<b>9</b>
Decision Making				<b>2</b>
Critical Thinking				<b>5</b>
Self Motivation				<b>6</b>
Professional Attitude				<b>7</b>

**Table 5: Rankings of most important attributes (based on average scores) by Employers and Students**