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Title: Revealing the hidden curriculum of Business IT: If it's not taught here, where is it taught?

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Revealing the hidden curriculum of Business IT: If it's not taught here, where is it taught?

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Abstract

This discussion paper explores options for the acquisition of common business Information Technology (IT) skills within an Australian undergraduate accounting degree. The paper draws on a larger project that identified and mapped the technical and generic skills and attributes that are required by the accounting professional bodies and expected of graduates by the University. Business IT skills were identified as being an important generic attribute for accounting graduates and are critical to the rapid and successful transition of graduate accountants to the workplace. It was evident from the larger research project that business IT skills formed part of a hidden curriculum of generic skills in that they are neither explicitly taught nor assessed as part of the formal curriculum. This paper discusses the positioning of business IT within the curriculum of a university undergraduate accounting degree.

Introduction

The modern accounting graduate is expected to have mastered not only the technical skill and expertise of the accounting profession, but also to have developed a range of broader skills. These skills typically include the capacity for problem solving, critical thinking, strategic analysis, written and oral communication skills as well as capability in information technology (IT) skills expected in modern office workplaces (CPA & ICAA 2005; Sin & Jones 2003). These graduate qualities, often referred to as ‘soft skills’ or ‘generic attributes’, are increasingly expected by employers of accounting graduates. In recognition of the increasing gap between the expectations of industry and the actual skill levels of graduates, there have been calls for changes in accounting education from the accounting profession, industry, and from accounting academics (Albrecht & Sack 2000).

Whilst the capacity to effectively use the IT applications commonly found in offices is often cited as a required attribute of an accounting graduate (CPA & ICAA 2005; Sin & Jones 2003; Albrecht & Sack 2000), there appears to be very little research into how these skills are transferred to students. It can be argued that for accounting graduates, IT skills form part of a ‘hidden curriculum’ (Pollmann 1990).

This paper restricts the discussion of general office IT skills to those identified in the larger research project as being part of the MicroSoft (MS) Office Suite of applications, specifically MS Word, MS Excel, and MS PowerPoint. These applications were identified by Burnett (2003) and by CSU academic staff as the packages utilised by staff to support teaching and are the most commonly used applications in the modern office environment in Australia. Accounting students also receive exposure, as part of their degree, to accounting packages including MYOB however these are considered to be accounting discipline-specific and are not included as a broader ‘soft skill’.

Generic Skills

Within the accounting and broader education literature there is considerable debate regarding the nature of the generic skills and attributes that all students graduating from university should possess (for example Barrie 2004; Bath *et al* 2004; Moore 2004; Sumsion & Goodfellow 2004). Within the broader education literature there is an array of terms used to describe graduate outcomes including skills, attributes, abilities, capacities, capabilities, competencies and qualities. These terms are used in combination with a range of skill descriptors which include generic, core, transferable, employability, vocational, personal, and graduate. Leaving the dispute over terminology aside, the fact remains that future accounting graduates are expected to graduate with a broader set of skills and attributes which encompass more than purely technical accounting expertise. This call for the development within accounting programs of generic graduate skills and attributes (Sin & Jones 2003; Albrecht & Sack 2000) is widely supported in the business education literature (Braun 2004; Leveson 2000). It is therefore incumbent on university accounting educators to alter their curriculum to ensure accounting graduates satisfy these expectations (Albrecht and Sack 2000).

Business IT Skills

A discussion of the inclusion of IT as a generic skill set to be taught within the accounting curriculum can take place on two levels. Initially, it must be decided whether in fact teaching generic IT skills is the responsibility of universities and academics. Secondly, if some level of responsibility to ensure that graduates have attained a level of IT proficiency is accepted by university educators, how will graduate IT skill be developed and assessed?

Responsibility for Teaching Business IT

It can be argued that the responsibility for teaching business IT is beyond the role of universities. Discussions with staff as part of the larger project indicated that some academics do not believe that the teaching of these broader skills, including business IT, is the responsibility of universities. They argue that these skills should be taught either at prior levels of learning or, alternatively, should remain the personal learning responsibility of the student.

The difficulty remains that if these skills are neither taught nor assessed at university level, where are they taught and assessed? And how, under modern outcomes-based models of education, can higher education institutions really attest to the graduate attributes they claim for their students?

There seems to be general agreement amongst accounting academics that generic skills such as business IT proficiency are desired graduate attributes. However, as these skills are neither included in the curriculum nor effectively assessed, there is currently no apparent process by which a student's proficiency in a skill such as business IT is measured. It appears to be an expectation that students will attain these highly valued generic skills by osmosis (Bath *et al* 2004).

Whilst recognising there is a gap between the generic skill expectations of employers and the skills possessed by accounting students upon graduation, it is also acknowledged in the literature that employers "*are a group that is potentially never satisfied*" (Gammie *et al*

2002, p.65). Employers are driven by a profit motive and understandably would prefer to transfer as much as possible of the cost of staff training to the education sector thus enabling new graduate employees to add value to their firm as quickly and cheaply as possible (Gammie *et al* 2002).

Business IT Proficiency

Whilst there appears to be agreement that a level of proficiency in the IT applications that graduates will encounter in the workplace is desirable, there is very little literature on what should be the level of proficiency. Indeed, even amongst academic staff within the School of Business, IT knowledge is fragmented with certain staff proficient in the applications most suited to the areas in which they are interested. There is no formal identification within CSU of the IT skills expected of students entering the degree, nor of the level expected of students graduating the degree. In their text on generic skills for accounting, Sin and Jones (2003) advocate the development of ‘computer literacy’ as part of the routine skills expected of graduates identified by the Australian accounting professional bodies (CPA & ICAA 2005). However, in comparison to other generic skills identified by Sin and Jones (2003) little instruction is given in terms of how to develop and assess IT skills in a coordinated and hierarchical manner.

Within industry, however, it is common for prospective employees to undergo tests of software proficiency, particularly in the use of spreadsheet applications such as Excel. This testing can be conducted to measure basic, intermediate, or advanced competency in the software application. Incidence of testing of student IT competency can also be found in the university sector. The University of Wisconsin-Stout (Wentz & Milanesi 2003) requires students to complete a comprehensive on-line self evaluation of their Word, Excel, PowerPoint and Email competency. This data is utilised by the university to guide specific IT training and as a means to identify at risk students and direct them to remedial lessons. At the University of Hong Kong, prior to graduation, students must either complete an IT Proficiency Test or a stand alone IT subject (Lee 2003). Similar to the University of Wisconsin-Stout, students at the University of Hong Kong are also asked to complete a self-assessment of their knowledge and confidence in utilising computers and IT at both the beginning and completion of their first year of university study.

Where student IT proficiency has been tested by universities it is apparent that the level of IT proficiency of students has not met the standard expected at entry to university (Lim & Kendle 2001). It is apparent that IT proficiency can be measured and tested. What is not clearly identified in the literature is the competency level that a university should expect of students entering a degree program, and the competency level that should be expected of a student graduating from a degree program. Clearly there is an expectation from employers, the accounting profession and accounting academics that accounting graduates will have achieved a level of proficiency in business IT skills. Given that, currently, there is no clearly preferred model for ensuring that these skills are attained by students several models are presented for discussion.

Modes of teaching common IT skills

Prior Learning and Personal Responsibility

In the larger project mapping generic skill delivery across the accounting degree taught in the School of Business at Charles Sturt University (McGrath & Murphy 2006), academics teaching in the accounting specialisation were asked to identify the generic skills encouraged, modelled, and assessed in the subjects they taught. When questioned about the transfer of IT skills to students, several staff argued that this task fell outside their role as academics. Several opined that these were foundation skills that students should possess prior to admission to the degree program and was the responsibility of the student and the secondary school system. These are valid arguments which apply to a range of the generic skills that universities claim as being instilled in graduates. At a time when the accounting curriculum is crowded with technical topics and academics are under increasing pressure to lower their assessment workload, is it fair to ask academics to assess even more items?

It is also argued in the education literature that it is not the sole responsibility of HEIs to deliver a life time of learning to students within the strict limitation of a three year undergraduate degree (Gammie *et al* 2002). Other institutions and students themselves must share the load in developing these non-subject specific skills. Adding further complexity is that this debate is taking place at a time when academics are experiencing increasing pressure to lower assessment workloads, not to add new assessment requirements.

Pre-entry Certification

Students who enrol in the CSU Bachelor of Business program directly from secondary school are assumed to have achieved a certain standard of IT competence. There is however no recognised standard of proficiency that students are expected to have on entry to the tertiary sector. In a study of IT skills Lin and Kendle (2001) found that most students had reasonable computer skills, however the level of skill, particularly in the use of spreadsheets, was not uniform.

Lim and Kendle (2001) queried the efficacy of teaching and learning in situations where students do not possess IT skills at a satisfactory level. Whilst it is apparent that some universities test the IT proficiency of students on entry to their first year of tertiary study, these test are self-evaluations and are not used to restrict access to specific programs. There is no evidence of universities using pre-entry certification of IT skills as a condition of acceptance into the institution.

Stand-alone Subjects

It is apparent that the completion of a compulsory stand-alone subject in which the identified business IT skills are explicitly taught and assessed would satisfy any requirement or expectation that graduates achieve a certain proficiency in generic IT applications. The model utilised by The Hong Kong University offers a potential solution where an elective introductory IT course is combined with a requirement to pass an IT proficiency test prior to graduation. Completion of the IT course obviates the need for students to sit the IT proficiency test in order to graduate (Lee 2003).

The problems with a stand alone subject in the first year of study is that it may preclude the ladder development of IT skills as the student moves through the degree as it may be too basic in focus and lack the application of the skills in the context of the discipline. Certainly, the integration of higher level IT skills into the assessment requirements of later subjects would overcome this potential shortcoming. The structural difficulty of including an additional compulsory subject into the accounting specialisation is problematic given the

existing crowded curriculum and the requirement of the professional bodies that at least 25% of the degree be elective subjects.

Integrated Teaching Model

Amongst academic teaching staff there is general confusion over the nature of generic skills and what are the important generic skills (Barrie 2004, de la Harpe, Radloff, & Wyber 2000). The difficulty of teaching generic skills being debated amongst accounting academics is how to integrate the development of these skills, such as IT, into an already crowded accounting curriculum, yet still satisfy the expectation that students will gain the required technical skills of the profession (Tempone & Martin 2003). A difficulty in delivering IT skills as an integrated model across all subjects is that that university teaching staff responsible for developing graduate attribute outcomes “*do not share a common understanding of either the nature of these outcomes, or the teaching and learning processes that might facilitate the development of these outcomes*” (Barrie 2004, p.263).

There is evidence within the accounting curriculum offered through the School of Business of attempts by academic staff to teach generic skills including IT competence (McGrath & Murphy 2006). However, in many of these tasks the skill is neither specifically assessed nor is the expectation of skill transference explicitly identified in assessment tasks. It is apparent that, where IT competencies were delivered within the program, they were taught in an ad hoc manner. Rather than the specific IT skills being developed in an integrated and hierarchical fashion that permeates the whole of the curriculum, there was no coordination between the teaching staff or in the development of the curriculum across subjects. It also seems likely that in an era of increasing academic casualisation, and the use of workload models that encourage fewer assessment items, that the integrated teaching of IT skills must be included in the curriculum and prescribed in the delivery of specific subjects if it is to be effective (Lim & Kendle 2001; de la Harpe, Radloff, & Wyber 2000).

Within an integrated model it would be expected that students would be required to complete assessment tasks using Word, Excel and PowerPoint. However, if there is no assessment of their competency with these software applications, students potentially graduate without attaining the higher levels of specific IT skills expected of graduates.

Pre-graduation Certification

Whilst university academics and their institutions may deny responsibility for teaching IT skills, few would argue that IT skills are not a required generic graduate attribute. By developing an expected standard of IT proficiency and a measurement instrument, a university can require its graduands to successfully complete a test of IT proficiency prior to being eligible to graduate (for example, University of Hong Kong)(Lee 2003). This model could be applied whether the university integrated IT teaching throughout a degree program or if the onus was solely on the student to self-develop this skill set. An appropriate test instrument would enable the university to attest to a minimum standard of competency for its graduates.

Conclusion

Currently there is no specified level of expected business IT skills at entry or exit to the tertiary sector in Australia. Whilst the argument over whether the teaching of IT skills is the

responsibility of the tertiary sector or not remains unresolved, there is an expectation from industry and the profession that graduates will possess a high level of computer and software proficiency. Universities have an obligation to ensure their graduates have achieved a minimum level of IT competency however, at present, for most universities it would appear this is not the case.

If universities decide that IT competency is a desired graduate outcome and should be taught within the tertiary sector then the expected levels of student attainment need to be identified. Without established measurement criteria and standards of achievement an articulated model of skill attainment outlining the hierarchical development of business IT skills within a typical three year degree program cannot be developed. Identification of skill sets and appropriate measurement methods will require further research.

This paper presents some of the options currently utilised to teach (or not teach) common IT skills as an expected graduate attribute. The paper hopes to stimulate discussion and encourage further research into the expectations, teaching methods and assumptions in respect to the attainment of business IT skills.

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