



Revolutionising the Accounting Curriculum in Higher Education: A vision of the future

Alan Sangster^a

ABSTRACT

Experiences of teaching since Covid first led to campuses closing worldwide in March 2020 highlighted problems in how accounting is taught and assessed. Those problems threaten the integrity of the education process and the quality of future accounting graduates. This paper considers the pressures these factors place on accounting faculty and proposes measures to adopt to address them. It also addresses the recognised problem that accounting programmes do not produce graduates appropriately equipped for a career as accountants, especially now that technology is causing the nature of entry-level positions, and so also those above them, to change. In response, it proposes how accounting programmes may be redesigned to produce graduates equipped to both meet the demands of employers and develop careers that respond to the rapidly changing role of accountants. In doing so, it proposes major changes to how accounting is taught in universities, to its assessment, its curriculum, to faculty recruitment and training and, where relevant, to accreditation of accounting programmes by professional accountancy bodies.

Keywords: Accounting education; IT; faculty recruitment; graduate competencies; inter-personal skills; faculty training; accreditation.

^a University of Aberdeen, UK E-mail address: alan.j.a.sangster@gmail.com

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1. Introduction

If you want to stop a computer taking your job,
you'll have to hone your creative and social skills.
(Frey & Osborne, 2014)

In 2017, an article appeared in the *Journal of Accounting Education* in which the authors presented a worrying case for change in both the content and in the pedagogy of accounting programmes, primarily in the United States. They (Pincus et al., 2017) pointed to the decrease in entry-level accounting positions and technology-driven change in the skills needed that had shifted higher-order skills from senior to entry-level. It was by no means the first time this had been highlighted but, now, it was identifying a pattern where, previously, the change had primarily been forecast.

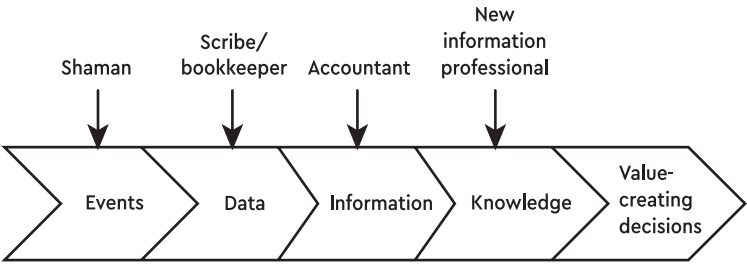
In 1992, in an article in *Accounting Horizons*, Bob Elliott presented a wake-up call to accounting educators, researchers, and professionals:

Information technology (IT) is changing everything. It represents a new, post-industrial paradigm of wealth creation that is replacing the industrial paradigm and is profoundly changing the way business is done. Because of these changes in business, the decisions that management must make are very different from former decisions. If the purpose of accounting information is to support business decision-making, and management's decision types are changing, then it is natural to expect accounting to change – both internal and external accounting. Obviously, if business, management, and accounting change, **accounting education and research must change: the types of students recruited, the curriculum, the set of required capabilities of graduates**, and the issues investigated. (Elliott, 1992: 61, emphasis added)

Elliott expanded on this theme in another article published 10 years later, co-authored with Peter Jacobson. In it they describe four forms of information professional: the shaman, the scribe, the accountant, and what they call the “new information professional”: the **knowledge professional**. Each of these four forms of information professional was established and served the information needs of society during a distinct economic phase. The shaman belonged to the age of hunting and gathering; the scribe to the agriculture age; the accountant to the industrial age; and the “new information professional” to the information age. Each type of professional captures what it needs from the previous dominant type; and what each type of professional provides becomes increasingly useful.

We no longer live in the industrial age for which accountants and the accounting profession emerged to serve and meet the financial information needs of business. Rather, we are living in an information age requiring a new form of information professional, one who provides not just information but knowledge, one who will subsume the role of the accountant and provide added value in the form of knowledge to assist decision-making. Elliott and Jacobson summarised this relationship between the types of information professional and what they provide in the form of a value chain, reproduced below in Figure 1:

Figure 1. The information services value chain



Source: Elliott & Jacobson (2002: 74)

In their view:

As the economic paradigm changed, information needs changed, and the information professionals typical of the passing era either lost their positions or transformed themselves into information professionals serving the needs of the newly dominant economic paradigm. The accounting profession has a vital interest in understanding the transition to the new information professionals peak usefulness as we move toward the peak of the information economy. ... the accountant is at risk of becoming a lesser or perhaps even a marginal player in providing business information services. Unlike the shaman and the scribe, extinction is not on the horizon. Financial accounting, audits, tax advisory services, and related work will continue. Nevertheless, accountancy as we know it today will not be the core of the information services satisfying the needs of the dominant economic model. (Elliott & Jacobson, 2002: 76)

This image presented a gloomy outlook for the accounting profession, destined to go the same way as the scribe and bookkeeper, and to be replaced by those better equipped at providing the knowledge required by economic decision-makers. Theirs was not a lone voice. In 1993 Denna, Cherrington, Andros, and Hollander

wrote of *financial and business professionals working together to create what we call a **business solution professional*** (Denna et al., 1993: 12, bold emphasis added) ... [whose] “... skills and services... which we expect to continue expanding in the future, can be of tremendous value to organisations.” (Denna et al., 1993: 21). Three years later, Hollander, Denna, and Cherrington suggested that perhaps management accounting should be left to specialists in information technology and that accountants should, instead, focus on extending their skills towards those of the **business solution professional** – the **knowledge professional** of Elliott and Jacobson. Perceiving the consuming nature of the shift to a new form of information professional, they voice the unstated implication of Elliot and Jacobson’s value chain:

Accounting has a natural, strategic opportunity to enhance its value because it is being drawn into the domain of solving business problems, not just traditional “accounting” problems. Individuals that perform the role of a business solution professional (merging business, accounting, and IT skills and knowledge) can ensure for themselves a key role in shaping the future of the organization. (Hollander et al., 1996: 14)

Elliott and Jacobson end their article with a call for accounting faculty to take the initiative:

The economic-paradigm analysis above suggests that the academic group with the most obvious claim to defining the body of knowledge for the new information professional is the accounting professoriate. Accountants inherited the scribe-steward role. They inherited and developed double-entry bookkeeping, transforming it into financial accounting. They developed audit and attest technologies. The profession has been giving advice on business information systems and controls for centuries. It harbors the information professionals best prepared to carry the accountancy tradition to the next generation of services. It has contributed to economic growth with its standing body of knowledge and can do much more by adapting that body of knowledge to meet new needs generated by the information economy. (Elliott & Jacobson, 2002: 80)

Thus, for at least the past 30 years, calls have been made for change in the focus of the work of accountants and a concomitant adjustment in the skillset of those who seek to evolve into knowledge professionals; and, both by implication and directly, that the change should be driven by accounting educators. The forecasts of demands for a different skillset have become reality. It is time to act. This is the rational underpinning the rest of this article. Accounting education needs to

change and equip our graduates for a changing world. A world where knowledge, rather than simply information, is what matters most.

The accountant as knowledge professional/business solution professional will require not just the knowledge to be able to interpret what information systems produce. As the quotation at the beginning of this paper indicates, the accountant will require to have highly developed creative and social skills. Inter-personal skills and communication skills will dominate the accountant's skillset and the ability to interpret and explain information is fundamental to what is communicated being fit-for-purpose and useful to decision makers. Accounting education needs to focus on developing those skills if it too is to be fit-for-purpose and its graduates fit-for-theirs.

The rest of this paper considers how accounting education has developed over this period, and also in the 1980s before Bob Elliott first highlighted what was coming in 1992. This earlier decade was one in which technology was slowly beginning to impact faculty and, to a far lesser extent, students. It does so through the experiential lens of its author. As such, it is very much a personal viewpoint informed by observation that identifies changes in how faculty and students engage in the education process, of the impact technology has had on it and them during that period, and the external factors that have shaped how we now find ourselves as faculty and students in 2022. In doing so, the focus is mostly on accounting education in the UK but, most of what it contains is relevant and applicable to accounting education elsewhere.

2. Teaching accounting in the 1980s

When I began teaching in Glasgow in 1983, we used blackboards plus rolls, or sheets, of acetate, which had to be washed after each class so that they could be used for the next one. All teaching was face-to-face and students did the lengthy exercises I asked them to prepare between their classes. They bought all the core texts. Attendance was 100 per cent unless there was a train strike or, in one instance, the off-licence where the student worked was broken into the evening before. There was no email, no Internet, no PowerPoint, no spreadsheet, no computers, and no online teaching. Only two of the 80 faculty members in my institution had personal computers: mine was provided when I was appointed so that I could continue to use the spreadsheet and word processing software that I had been using in industry; the other was self-funded by a colleague to assist him in his research.

I was teaching in a vocational college for students seeking careers in home economics in the hotel, catering, and institutional management industry. Several of the modules I taught were accredited, but none by an accountancy body. Student

engagement was high, almost no student failed and, in my first 4 years as a lecturer, only one student I know of dropped-out. Teacher training was mandatory and lasted for a complete semester, full-time. The course was so popular across Scotland that there was a 4-year waiting list. None of my colleagues had PhDs but many were professionally qualified. Neither of my two accounting colleagues had a graduate degree or an accountancy qualification.

In 1987, I moved to a university in Glasgow. In place of the full semester of teacher training for college lecturers, two half-days of teacher training were mandated by the university in my first semester. At the university, I was teaching accounting undergraduates, and the degree was accredited by the Institute of Chartered Accountants of Scotland (ICAS). Everything else I have described above was the same, except I no longer needed to wash my acetates after every class; all faculty and all doctoral students had personal computers; and we had a computer lab where I taught workshops in DBase (database software) and another where I taught workshops using general accounting package software. Colleagues told me that both were required for accreditation. That was not entirely correct. I introduced expert systems software into computer labs for a financial accounting module on accounting standards. The students were just as committed as in the vocational college: zero absences, virtually 100 per cent pass rates, core texts purchased by everyone. Most of my 10 accounting colleagues were professionally qualified. None had a PhD, though one was studying for one.

Two years later, I moved to another Scottish university. Only one of my accounting colleagues was not professionally qualified. She had a PhD in chemistry and had been assisting the International Accounting Standards Committee, so taught financial reporting and inflation accounting. No teacher training was required or offered. No-one else had a PhD when I arrived but one colleague completed hers soon after. A year later, I decided that I needed to know what a teacher should do and enrolled in a 1-year full-time course in Teaching English to Speakers of Foreign Languages (TESOL), with the classes all in the evenings. At the university, we taught programming in Basic, which was required for accreditation, in place of the database software I had been using in my previous job. Either was considered appropriate to meet the needs of accreditation. However, the aim of this inclusion in the syllabus by ICAS, the accrediting professional accountancy body, was to develop skill in logical thinking, not programming. Programming in Basic was what they expected, but anything equivalent would do.

In the university, we could teach however we wanted, and doctoral students took some of the small group teaching. We did not feel constrained by accreditation within topics – e.g. audit, tax, management accounting, financial accounting – either

regarding content or assessment. We simply had to teach the topics and ensure our syllabus and our assessment covered and/or assessed the topics required for accreditation. We sensed we had a lot of capacity for innovation in the syllabus, and we did. We had to comply with the examination requirements – closed book was the approach and the time given was the primary issue: it had to be 3 hours. Continuous assessment was not included in final grades. My students still had some to complete: I made passing weekly objective tests compulsory if a student was to be allowed to sit the exam for my first year management accounting module.

When I arrived at that university in 1989, there was one desktop computer shared by everyone. Soon after, we were all provided with a PC but, there were no computer labs, and no-one taught using software of any type. A year later, the head of department secured external funding for a 20-seat computer lab and I introduced spreadsheets into my management accounting workshops. He also secured a site licence for financial modelling software that I used in the lab with my accounting information systems students. I began to use a computer-based instruction package to teach accounting standards and a colleague used another CBI package to teach double entry bookkeeping. By 1996, all accounting modules included spreadsheets in their classes and the double entry bookkeeping CBI package was in use in over 100, i.e. nearly all the UK universities that taught accounting.

I moved to a different university in July that year. It had its own computer lab for teaching and all staff had a networked pc running software off a central server. In January 1997, I used PowerPoint in a classroom for the first time. At this university, as at all the others in which I had worked, students attended all classes and they all took notes in lectures. The accounting degree received maximum exemptions from CA Ireland. Exams still dominated assessment, but coursework counted 50% towards grades in the first-year accounting module; and an individual project was the only assessment in the final year accounting information systems module.

Moving forwards past roles in seven other universities to January 2020, much had changed. The accounting syllabus was trying to cover everything, expectations had plummeted, assessments were much less challenging, and essays and discursive questions were noticeably less prominent. Most students no longer did homework before class, almost none did assigned reading before class, the majority did not attend lectures, attendance at workshops and tutorials, while compulsory, was around 85 per cent. As a consequence of the explosion in VLE adoption in the mid-2000s and the “it is there, we must use it” mentality that propelled spoon-feeding to a new level by obliging academics to populate their module websites with PowerPoint *before* classes, students viewed PowerPoint slides as the only course text. Note-taking in class had disappeared, and core texts were not purchased.

Assessment in the discipline across the sector had become mixed, with varying amounts of continuous assessment in most modules. But, the omnipresent closed book examination continued to dominate assessment on those that were accredited by professional accountancy bodies. In many cases, exam length had reduced from three hours to two but student anonymity, imposed with rigour in the 1990s, was superficial at best possibly because, in some, but by no means all cases, the VLEs could not provide it. Essays as coursework and undergraduate dissertations were problematic with plagiarism increasingly evident. While anti-plagiarism software, such as *Turnitin* and *SafeAssign* had some impact, essay mills made it difficult to address this effectively; and, whereas in the 1980s, students caught cheating would accept their punishment, the systems in place in universities in 2020 made any punishment for cheating no more than a delaying phase requiring resubmission or a second attempt. I have never encountered or heard of a student being expelled for plagiarism, not even one a colleague identified a few years earlier who downloaded a dissertation online, substituted her name for the original, and rewrote the dedication.

One reason for the increase in cheating was that, compared to the 1990s, students were not engaged, and much less motivated. However, grading drift was very noticeable, resulting in them achieving far higher grades than their peers of 30 years ago would have done had they sat the same assessments and written the same answers. The lack of engagement reveals itself in the fact that, although there were many more first and upper second grades than in the 1990s, failure rates were higher. Another cause of this was that student entry requirements were lower and controls over English language ability thresholds for entry had been introduced and then sometimes ignored. Also, regimented quality measures imposed on assessments in the mid-90s had been replaced with a much less formal, more flexible approach. While small group teaching was still believed to be effective, few felt that lectures really worked any more but, counter-intuitively, while lectures continued to be taught by faculty, PhD students were much more prominent in teaching of seminar classes and tutorials, and in marking.

During my career, I have acted as external examiner or programme validator for over a quarter of UK accounting departments, and I was involved in the accreditation of over half of them in the 1990s. I still have many of the contacts I established then. As I discussed the sector with many of them, I heard of and saw similar changes. The undergraduate syllabus of the accredited degree programmes I saw or heard described seemed full and cumbersome. This is how I had increasingly viewed it everywhere I had worked at or served in as an external examiner or course validator since the Board of Accreditation, which accredited degree programmes on behalf of most of the UK & Irish professional accountancy bodies, was disbanded in 2001. In an instant, that act destroyed 15 years of collective memory which, as regional

chair for Ireland, Scotland, Northern Ireland, and the North of England, I believed had made accreditation a positive process for accounting programmes. The bodies thereafter reverted to each one separately accrediting individual accounting programmes; and there seemed to be much less awareness in universities of what was required for accreditation – where the limits lay. Compliance with what was truly needed was replaced with compliance with everything, just in case.

Elsewhere a few years ago, I tried to redress the balance by redesigning the accounting programme to embrace both what was truly needed for accreditation, and to meet the needs of employers. The latter was and is particularly important. Despite the research literature informing us for more than 30 years what our graduates should be able to do when entering the accounting profession, little had been done to meet those demands, and less had been successful in improving these desirable abilities. In fact, critical thinking seemed to have diminished in importance and, with that, skills in logical thinking. Students no longer learn what it means to communicate, nor how to do it – few would argue that group assignments and occasional presentations in class do develop communication skills, but not very much. So far as I am aware, that is as far as interventions like that go. Gone is the range and variety of activities I saw in many different universities in the 1990s. My attempt to redesign the curriculum failed at the last hurdle. The key decision maker, unaware of the demands being addressed in the proposed programme, asked for more time for reflection. It was never mentioned again.

This was, therefore, a completely different education system in early 2020 from the one I had been working in during the 1990s. To me, very little made sense. Then came Covid-19, and what made little sense became worse.

3. What we learnt from Covid-19

Universities across the world closed their doors in mid-March 2020, throwing students, faculty, and administrators into a virtual campus. The infrastructure was not in place, students did not know how to learn in this environment, faculty did not know how to adapt how they taught and assessed, and administrators and universities were reluctant to change procedures and systems to fit this temporary new world. For accounting programmes that were accredited by professional accountancy bodies, a similar but narrower situation existed: the bodies were reluctant to change their demands on assessment which, of course, caused confusion for both students and faculty, never mind administrators, when they realised that they would need to organise online exams for accounting students while the rest of their business school students had a piece of coursework instead or, in some cases, no assessment at all.

From across the world came stories of how faculty and students coped with the chaos, many of which were captured in the article compiled by Sangster, Stoner & Flood in 2020: *Insights into accounting education in a COVID-19 world*. Included in it were contributions from 66 faculty in 45 countries. It revealed how faculty, students, and administrators found their lives disrupted and changed, with some changes, such as online teaching, expected to become permanent after things returned to “normal”. By the time that the survey data was gathered, two months had passed since physical campuses were closed. Faculty had learnt how to teach differently. Syllabuses shrank as topics within modules were dropped to provide more time to prepare new teaching materials. The new online world relied on technology, and many started using it for things they had never envisaged doing.

Training was available for some, but by no means all, and faculty had to teach themselves skills in video and communication technologies, often by trial-and-error, always against a backdrop of insufficient time to “make it perfect”. Technology deprivation was a major problem in some regions for both faculty and students, for which there was no immediate solution. In some countries and regions the provision of Internet and power was also, at best, unstable, threatening both delivery of instruction and engagement with online learning problematic for many.

Virtually immediately, education was no longer the priority, student well-being was the priority. In contrast, faculty well-being was not the priority. They had to deliver, in some cases, to extremely tight deadlines; and many suffered extreme stress and even burn-out. The impact in some institutions was a disaster, particularly where international students financed much of the sector, such as in Australia and New Zealand. Universities in those countries had no choice but to downsize when international students stopped enrolling. Many faculty lost their jobs with no prospect of a return to teaching unless they emigrated.

While student well-being was the priority, no moves were made to train students in how to learn in this new online-only environment. There was no time to do so. Consequently, untrained students resisted switching-on videos and microphones in synchronous classes, preferring to use online chat to ask questions or answer queries from faculty, even in large classes where class-management issues for instructors made doing so pointless. The “black screen” became the norm and faculty frequently only saw themselves while they taught. Most students avoided watching asynchronous lectures. They preferred to rely on the PowerPoint slides. Only the committed minority tried to keep pace with the curriculum when looking at online course materials, meaning that synchronous online classes that discussed any online course material scheduled to have been accessed by students before the class were far from successful learning or teaching experiences. The possibility of developing understanding and critical thinking in those synchronous

online classes was minimal, as was any possibility of developing either student verbal communication skills or student inter-personal skills, the very things that employers of accounting graduates want.

Faculty demonstrated that they could be extremely flexible, but the cost was high with some subsequently taking early retirement in preference to working in ways they viewed as pedagogically inappropriate or, too difficult to do at the level of quality they sought to achieve. In many cases, this situation lasted for over a year before campuses began to partially reopen and move back towards “normal”. Even then, many universities were forced by social distancing requirements to commit to dual provision of simultaneous face-to-face and online mode. In March 2022, two years on, in many universities masks were still mandatory, which transferred online anonymity into classroom anonymity, causing further stress for both faculty and students.

Looking back across those two years, faculty learnt how to examine students differently. The standards achieved were sometimes ignored, grades were inflated, pass rates were inflated and, in some cases, certificates and diplomas and degrees were awarded with control over the assessment reduced to a level of insignificance, if there was any at all. Students learnt to “game” the “new world” and cheating, particularly plagiarism, became endemic where previously it had been a significant exception. Faculty also learnt to “game” the “new world” and two distinct groups emerged:

- Faculty who did not care about the quality of their teaching did not attempt to do anything different. They delivered the same classes online as they had previously delivered face-to-face. Their work-life balance improved during campus closure.
- Faculty who did care about the quality of their teaching completely changed how they taught. Their work-life balance plummeted. This was the group to which those who took early retirement largely belonged.

Reflecting on what happened, the response to Covid demonstrated that faculty could use technology to replace costly physical teaching. Not surprisingly, universities realised that large face-to-face lectures were not only of limited pedagogical value, they were also a waste of resources. Some ceased them permanently. Faculty learnt that using technology could save them a lot of effort if they switched from face-to-face delivery to recorded video or to synchronous online delivery that they recorded for future use. Some claimed that providing pre-recorded videos makes it easier for students because they can choose when to listen to their lectures but, in my view and those with

whom I have discussed it, students watched asynchronous lectures even less than they had previously attended lectures pre-Covid. The challenge of getting students to attend and acquire basic knowledge of their subjects is now worse than it was before.

Faculty using computer-graded assessment for the first time learnt that it is less work than formal examinations, and can be repeated many times compared to the single use examination paper. Universities learnt that online examinations are cheaper to run than face-to-face exams, faculty found them more convenient, as did students, particularly as they could go home from campus after classes finished and did not need to make the potentially expensive and sometimes thousands-of-miles-long journey, to sit a 2-hour exam. Faculty also learnt that levels of cheating increase dramatically when examinations are online unless there is effective proctoring in place, which there was not.

4. How these lessons from Covid campus closure may impact the future of accounting education

It seems unlikely that there will ever be a return to 100 per cent face-to-face instruction. Blended learning is cheaper to resource, and faculty who learn to reuse their recorded material will prefer doing so to having to repeat the same lecture every year, or even three times a year as I had to do in one of the universities in which I worked a decade ago. A shift to timetabling small group teaching in place of lectures will increase demand on rooms, which most universities do not have, so the number of hours of face-to-face small group classes each student has is unlikely to increase above 2019 levels. Any significant increase in small group classes will be online, which we have learnt in the past two years does not develop any of the inter-personal skills that employers and the literature tells us we need to be focusing upon. In addition, when campuses were shut we also learnt that students did not engage with online material. The only solution I can envisage is adoption of a flipped classroom (see, for example, Persky & McLaughlin, 2017). It is the only approach likely to enable the same subject coverage to persist as in 2019 unless face-to-face lectures are retained. But, we know they were poorly attended too. So, again, the flipped classroom is the only solution I can envisage.

Otherwise, seminars, workshops, and tutorials will be used to teach knowledge – currently, the role of a lecture – rather than to teach understanding and application. The result would be an inevitable lowering of standards and inevitable increasing unemployability among accounting graduates seeking entry-level accounting positions.

4.1 The flipped classroom

My own experience of using the flipped classroom throughout the past 10 years is that it needs to be supported by assessment of the prior study material before it is discussed in the class. Unfortunately, I do not believe that most faculty are ready for this. Where a flipped classroom is appropriately managed and preparatory learning is incentivised, students will improve their inter-personal skills, their communication skills, their interpretive skills, and their critical thinking skills. With respect to the future of accounting as a university discipline, adopting a flipped classroom approach, supported by summative assessment of preparatory learning, develops the skillset required by employers of accounting graduates. I do not believe we have a choice but to switch teaching of all subjects to this approach. It would not be a Grade Point Average assessment system. Each summative assessment would stand apart and could contribute relatively little to the final grade, with the majority of summative assessment grades obtained by a combination of in-class participation grades and out-of-class assignments and projects.

To function effectively, faculty and students will need training in how to teach and learn in a flipped classroom. To address this, all faculty irrespective of experience, will require to attend a mandatory course. Failure to do so, or failure to create effective courses will put the entire programme at risk. For students, all degree programmes should include a compulsory module on how to learn at the beginning of the first year of study. Ideally, this should be delivered in block-teaching mode, with the module being the only one taught in the first weeks of the first semester. For example, if a semester has 12 teaching weeks and contains 3 modules, the first four weeks would be devoted to the 'how to learn' module and the final eight weeks devoted to the other two modules. Universities may require to amend their regulations concerning late enrolment if this is to be effective.

We knew that the current teaching model was out of date in 1992. We knew it in 2017. And, the approaches adopted during Covid only made the problems worse. It is time to re-engineer the whole education process and design one that is fit-for-purpose before the doom-and-gloom described by Pincus et al. (2017) becomes a reality and accounting programmes shrink in numbers to the point of extinction because the profession no longer wants our graduates.

4.2 Assessment

Online assessment is unlikely to reduce back to the levels of 2019 and, if universities decide to invest in proctoring software, online examinations will replace face-to-face examinations virtually everywhere. Alternatively, universities may find it easier to scrap examinations altogether, in which case use of online tests will increase. Furthermore, if universities decide that they are unable to control

plagiarism, they may shift away from using essays for summative assessment, which would also shift the emphasis onto online testing. However, for accounting education in regions, such as the UK and Ireland, where professional accountancy bodies constrain flexibility and choice in assessment, these changes will be difficult, if not impossible. It is time for accounting departments in those and other similarly situated regions to come together and present a case to the professional accountancy bodies for a new model of accreditation, one that does not embrace traditional examinations either online or face-to-face. This has already begun to happen in Australia with one accounting programme now accredited that has no traditional examinations.^[1]

5. Other factors and their potential impact on accounting education

Before the period of Covid campus closure, it was already apparent that several topics had become more important in the eyes of the accounting profession, particularly big data, data analytics, and artificial intelligence.

5.1 New topics

These topics are being added to the examinations of the professional accountancy bodies, which means that they will be required to be covered for accreditation of an accounting programme. Who will teach these subjects in the universities? Perhaps they can be marginalised into components of existing modules, like audit, with very little detail, in much the same way computerised audit testing was dealt with 30 years ago: it exists, it involves this, and it is done in the following way. That is, at a very basic level past experience indicates that this would be sufficient for accreditation but, considering how the role and skillset of entry level accountants has changed (Pincus et al., 2017), it seems unlikely that this is a long-term solution. Knowledge and understanding will need to be at a higher level, which means it must be taught. In turn, that means that some faculty will need to learn about these subjects sufficiently to do so. The simplest solution is to recruit people who already have that expertise. That probably will not be a problem 10 years from now but, it will be for the more immediate future of the next few years.

Another set of topics that emerged, this time during the past two years, are ones that were already taught in some accounting programmes by enthusiasts. Now, they are being perceived as priority topics, ones that must be included. They go by a variety of names but the one I have most often seen used is Environmental, Social, and Governance (ESG). As with big data, data analytics, and AI, who is going to teach them, and how will they be brought into programmes that do not currently include them? Similar implications apply to those mentioned in the previous paragraph.

5.2 Other voices

Recently, the accounting profession has begun to speak louder about the poor design of accounting programmes with too much coverage of unnecessary technical topics and too little emphasis on what employers need. I first heard something like this in the UK in the early 1990s, when a senior partner in a very large accounting firm, told his academic audience that universities were wasting their time teaching unnecessary topics. He told us that the only thing the profession wanted us to ensure was that accounting graduates could do double entry bookkeeping. Since then, accounting programmes have been going in the opposite direction, adding technical content – mainly in the form of expanding coverage of accounting standards – and minimising coverage of double entry. If there is one lesson I have taken from 40 years as an academic it is that accounting programme designers deliver what they *think* is needed or *wish* to be needed, rarely what is *actually* needed. Given what Pincus et al. (2017) tell us about the present of accounting, it is time for that tendency to be reversed. Accounting programmes need to start listening before employers refuse to employ accounting graduates because, if that happens as it ultimately will, within a few years, those programmes will not have any reason to exist.

Listening to the profession would result in faculty realising that the profession and those who employ accounting graduates in industry, government, and the third sector want to recruit people they can train to do their jobs. They want accounting graduates to be ready to become accountants. They have never wanted them to start their jobs already highly skilled in accounting, accounting regulations, audit, tax, or anything else. As anyone will tell you who has tried to teach someone a skill that they have learnt in a way that is different from the one desired by the trainer, it is a thankless and sometimes pointless task. It is far easier to train someone who knows the basics of what something is and why it exists, but has no deep knowledge. That is what the employers want. What conversations with employers have consistently told me is that they want accounting graduates to have good interpersonal skills, good communication skills, that they are flexible adaptive learners with good critical thinking skills and good problem solving skills – the ability to apply logic and reasoning to solve problems irrespective of how structured or not they may be; and the only technical skill they want accounting graduates to have is, as it was 30 years ago: the ability to do double entry bookkeeping.

6. What this all means for accounting education

Accounting programmes need to change before they become obsolete. Pincus et al. (2017) describe the tip of the iceberg. The impact on the soft skills of accounting students of the Covid campus closedown and the restrictions after campuses were re-opened have only exacerbated the problems accounting as a university

discipline previously faced. Accounting programmes urgently need to be redesigned in a manner that recognises that traditional lectures and equivalent online video lectures are not fit-for-purpose. In their place, a flipped classroom approach should be adopted. It should be supported by summative assessment of the preparatory learning assigned before each small group class. Those teaching the small group classes should assume that students have acquired the knowledge delivered in the preparatory learning, whether it was delivered by video, online resource, textbook, or any other means, including lecture. Their classes should focus on developing understanding and application, and on growing the skills of the students that employers seek. They should avoid teaching the knowledge that should have been acquired in the preparatory learning. Doing so *will* encourage students to engage with that preparatory learning, as will the summative tests of their knowledge.

The content of accounting programmes urgently needs to align with the demands of employers. Technical knowledge and understanding that employers teach their graduate entrants on the job should be removed, including all technical aspects of accounting regulation. Financial reporting should be taught from a user perspective, not from a preparer perspective. That is, students should be given knowledge of the process of preparing financial statements in the preparatory learning phase. The classroom, however, should be used to provide understanding of what such statements mean, how to interpret them and use them for decision-making. Similarly with management accounting topics such as budgeting and variance analysis. Costing should also be taught from a user perspective focusing, for example, on what cost information is used for, where it comes from, how uncertainty is addressed, and contrasting the outcome of decisions based on cost information with those taken lacking such information.

If included in the accounting programme, taxation should be taught as a theoretical subject, *not* as one where tax calculation is the focus. The “6-Ws” should dominate the classroom: who? what? why? when? where? how? But, always with a focus on developing understanding and application and developing critical thinking skills, not doing the underlying technical task, such as preparing a budget or calculating a cost or a tax liability.

Double entry bookkeeping, which is fundamental to an understanding of financial statement preparation, audit, earnings management, and forensic accounting should be taught critically at a technical level, reinforced in small group classes. It should be taught in a way that develops understanding. Rules do not develop understanding. They can only assist in the *doing* of a task *without* understanding (Briggs & Wager, 1981: 40-44). To understand double entry, students:

need to be taught the principles that define them, the relationships between [the debit and the credit], and how they operate: how they

work and where, as in this case, the two are mutually exclusive, how they work together. Rules are incapable of doing so. (Sangster, 2022)

How to teach double entry by principles was demonstrated over 500 years ago by Luca Pacioli (1494). In two recent publications (Sangster, 2018, 2022), I presented a framework encapsulating the approach, which is presented below.

Figure 2. Pacioli's (1494) approach to teaching double entry by principles^{[2][3]}

How double entry works and how to identify the account to debit and the account to credit

- ☐ All transactions involve two elements: an item exchanged and a form of settlement

☐ One element is debit and the other is credit

☐ Debit = credit

⇒ The amount of the form of settlement = the amount of the item exchanged
- ☐ The amount of the form of settlement = the amount of the item exchanged

☐ All forms of settlement can substitute for each other

☐ Cash received is a debit

☐ Cash is a form of settlement

⇒ If a form of settlement is received, it is a debit

⇒ And the item exchanged is a credit
- ☐ The amount of the form of settlement = the amount of the item exchanged

☐ All forms of settlement can substitute for each other

☐ Cash given is a credit

☐ Cash is a form of settlement

⇒ If a form of settlement is given, it is a credit

⇒ And the item exchanged is a debit
- ☐ The entries in the money column are to be in one currency only

Note: Pacioli's *forms of settlement* are cash, IOU, barter, bank draft, or a mixture of these. When teaching using this figure, I add capital, which makes explicit what Pacioli made implicit. The symbol '⇒' represents 'implies'.

Teaching double entry by principles makes it an ideal topic to develop student critical thinking skills from the very beginning, in teaching what the debit and the credit represent, in identifying the accounts to debit and credit for individual transactions, and in developing, for example, understanding of the impact of adjusting entries on the financial statements. There can be few more appropriate vehicles to use to teach critical thinking skills in a way that is relevant to accounting, the accounting profession, and the demands of employers of accounting graduates.

Being able to interpret, think logically, and question and explain data and information will be essential skills for accounting graduates to possess in their role as business solutions professionals. Auditing is an ideal topic in which to develop those skills and should be taught, not as a technical, "how to do it" subject, but as a theoretical, critical subject focusing, as with tax, on the "6-Ws".

To these accounting subjects should be added those that most appropriately address the skillset required of accountants of the future – the business solutions professional envisaged by Denna et al. (1993), the knowledge professional described by Elliott & Jacobson (2002), and confirmed by Pincus et al. (2017). These new subjects should be people-focused, from human relations, sociology, psychology, communication studies, personnel management, information science, data management, knowledge management, and environmental studies. The result will be an accounting programme mainly about social science – people – and much less about rules, regulations, and technical procedures. This will meet the needs of employers and will prepare accounting graduates to survive and flourish in the increasingly computerised world of accounting, where they will provide the added value that technology cannot bring.

7. What this would mean for accounting faculty

To teach such a diverse programme, accounting departments as we know them today, with their mixture of accountants and finance faculty equipped with PhDs, will gradually disappear. Eventually, they will be replaced by interdisciplinary departments containing less accounting faculty. The accountants will be joined by information scientists, psychologists, sociologists, data analysts, and experts in communications, knowledge management, personnel management, and environmental studies. Accounting as a university discipline will continue to exist, delivering the core of the accounting programme, but the number of accounting faculty will significantly reduce over time.

This is not a new phenomenon for accounting faculty, especially in the UK where it is very difficult to recruit qualified accountants into universities. In the UK, recruitment to accounting departments since the early 1990s has focused on research capability, not on professional accountancy qualifications. In a study I conducted in 1992, the vast majority of faculty in UK accounting departments were qualified accountants. Almost none had PhDs. In 2022, most have PhDs and the minority are qualified accountants; and the majority of new lecturers appointed fit that profile. If the trend continues, within the next decade, two at most, the number of qualified accountants working in most UK university accounting departments will be close to zero. Accounting modules will be taught almost exclusively by faculty ill-equipped to do so. Perhaps the trend to appoint faculty to teaching and scholarship positions that has gathered pace, in the UK at least, during the past few years will help reverse this situation.

However, I do not believe that it alone will be sufficient to make an impact on the problem. This preference to recruit faculty with PhDs rather than accounting

qualifications will be reversed if the new accounting programme outlined above is adopted. Doing so will place the emphasis back on recruiting specialists. No longer will someone with very little accounting knowledge or expertise, typically with no relevant work experience, be seen as an appropriate appointment to an accounting position. Being a qualified accountant will become of value once again, as it was in the 1980s. If having a doctorate is required, it will be obtained while employed as accounting faculty, not as a prerequisite for becoming one.

8. What else is required?

For accounting programmes in regions where they are accredited by professional accountancy bodies, the terms of accreditation will need to be rewritten. In addition, the whole concept of accreditation needs to be reconsidered with considerable changes to what accreditation entails, means, and provides. Even a cursory glance at what the current system entails reveals how irrational it is, especially given what more than 30 years of research tells us employers want from accounting graduates. Accreditation does not consider the demands of employers, it is entirely focused on the examinations of the professional accountancy bodies, providing exemption from some of those examinations to holders of accredited degrees. The professional accountancy bodies set their exams to test the abilities of trainee accountants, not those of accounting undergraduates. Trainee accountants acquire those abilities in the workplace, not at university. This is why, in the UK at least, accreditation is not a barrier to being admitted to training to become a professionally qualified accountant; and the majority of graduate entrants to, for example, the Institute of Chartered Accountants in England and Wales (ICAEW), do not have an accredited degree.

For accounting graduates to appeal to employers, they need to be equipped with the skillset that the employers want. Today's accounting programmes do not equip graduates with those skills, they teach them how to be accountants because that is necessary for accounting programmes to be accredited. Thus, these programmes equip accounting graduates to by-pass some professional accountancy body examinations. The cost of doing so is an over-full curriculum that does not provide accounting graduates with the skillset needed to be attractive in the job market. To gain good entry level positions in the profession, accounting graduates need the latter, not the former. Without it, they will find it increasingly difficult to compete in the job market against students from other undergraduate disciplines who do have more of that skillset when they graduate. Accreditation of this type needs to be replaced by accreditation of attainment of the skillset needed by entry-level accountants today. Doing so requires that a new accounting programme of the nature described above is adopted. Simply adding-in more time spent on

development of these skills in current programmes will not work. That was tried, to no lasting effect, in the UK in the early-1990s.

The proposed new accounting programme outlined above will be needed if accounting graduates are to thrive and develop as accountants. Its skillset includes interpersonal skills, problem-solving skills, investigatory skills, analytical skills, communication skills, explanatory skills and relevant knowledge and understanding. This skillset will assist accounting graduates to adjust as their roles transform into business solution professionals/knowledge professionals equipped to guide those they advise towards value-creation decisions, as foreseen by Hollander et al. (1996) and Elliot & Jacobson (2002). Graduates whose degrees are accredited for their development of these skills will be attractive to employers. The relevance of their degrees to accounting and to business will make them far more attractive to employers than graduates from other disciplines, leading to higher levels of recruitment and retention than graduates from current accounting degree programmes will experience. In short, by adopting this type of a new accounting programme taught in the way described, and changing how accreditation is done, accounting students, faculty, graduates, employers, and the accounting profession will all benefit.

9. The way forward

Some would argue that accreditation must be dealt with before the radical changes proposed in this paper are made to accounting programmes. However, there is no reason for the excessively technical focus in current programmes. A first step would be to work towards establishing the minimum technical coverage required. As shown in the Appendix 1, in the 3-year degree programme I designed a few years ago, space was created for 6 unaccredited modules from outside accounting, finance, and law. Benchmarking against the accounting programmes of 15 other universities of comparable status in the sector, found that it would have been granted full accreditation by the Chartered Institute of Management Accountants (CIMA) and The Association of Chartered Certified Accountants (ACCA); and granted equivalent accreditation to those accredited by ICAEW, CA Ireland, and ICAS. Doing this would require that the individual bodies approve the changes but, all things being equal, they would.

The next step is to build the proposed new accounting programme around that minimal technical content. Then, the process of changing the focus of accreditation towards the skillset outlined above could meaningfully begin. Achieving it would require that accounting departments work together, possibly through national academic bodies, like the British Accounting and Finance Association. If they

spoke with a united voice, the illogicality of accreditation focused on professional examinations as opposed to accreditation focused on what is required and demanded of entry-level accountants by their employers would be laid bare. Those institutions that preferred to continue with professional-exam-based accreditation could do so but, over time, their accounting graduates would find it increasingly difficult to obtain entry-level accounting jobs. Furthermore, several accountancy firms already require their trainees to sit the professional exams from which they are exempted. If that were to spread across the sector, having exemptions would serve no benefit at all, either for the student or for their employer.

10. Conclusion

This paper has presented a blueprint to guide designers of university accounting programmes in creating a new type of accounting degree that has a focus on making accounting graduates fit-for-purpose, rather than training them to be traditional accountants. Building on lessons learnt in the two years since the first wave of Covid-driven campus closures, to maximise the benefits of the proposed change in content, the approach to teaching must recognise the inappropriateness of lectures and adopt a summative assessment-supported flipped classroom approach to education.

It should be recognised that accounting education is different across the world. Where I am based, in the UK, accounting education is influenced and impacted by the UK and Irish professional accountancy body accreditation system for accounting programmes. A solution to that situation has been proposed in this paper. In many other parts of the world, that does not apply and different forms of accreditation may present other difficulties or opportunities. Nevertheless, as described by Pincus et al. (2017), wherever an accounting programme is located in the world, the future of accounting as a career is going to differ greatly from how it has been in the past. Accounting faculty have long resisted the demands of employers, or responded only minimally to them. Now more than ever, with the nature of entry-level positions changing at pace for at least the past decade, it is time to take notice and change our accounting programmes before they become obsolete. More to the point, it is time to change them before significant numbers of accounting graduates find that they cannot obtain entry-level positions or, worse, discover that having obtained an accounting job, they cannot do what their employers expect.

On that point, I can add one personal experience illustrating how devastating it can be. In my fully accredited degree obtained almost 50 years ago, we did costing, not management accounting. At that time, only people with accredited degrees could get positions as apprentices in Scottish chartered accountant firms. We

then attended block release classes delivered by ICAS three times during the first year of training. In the classes, it was assumed we had acquired the knowledge for which our degrees had been accredited. My degree got me the job, but my first fortnight as a trainee in my ICAS-run classes in management accounting ended with the lecturer, who was handing back marked assignments to each student individually, taking me aside and telling me in a very loud voice that I had no possibility of ever passing his subject. My only option was to teach myself the then entire undergraduate management accounting syllabus that my peers had done at university in the 6 weeks that I had before the next set of classes. I came close to abandoning my plans for a career in accounting and taking a job as a trainee manager in the retail industry. I even had an interview arranged and only withdrew at the last minute when a colleague, who was helping me understand the very dense textbook, told me that it appeared I had now “caught-up”. The skillset our graduates need cannot be learnt in 6 weeks of self-study.

Our duty to our students to make them fit-for-purpose as graduates makes what is proposed in this paper an imperative. Failure to respond will guarantee the demise of accounting as a university discipline, one that no longer serves a purpose. Anyone who doubts that need only read Pincus et al. (2017) and consider what it is that accounting programmes equip their graduates to do compared to what employers want and to what accounting roles are becoming, especially the entry-level roles our graduates traditionally seek.

Endnotes

^[1] This point was made by Professor Nick McGuigan of Monash University, Australia during the 2022 conference of the Accounting Education special interest group of the British Accounting and Finance Association.

^[2] Pacioli did not use the term 'IOU', he used the word, '*termine*' (time), which refers to a specific arrangement of credit, a promissory note or an IOU, a written acknowledgement that the amount is due. Today, when teaching double entry, we would use 'credit'. However, because we are already using the word 'credit' with a different meaning, doing so can confuse students. It is less confusing for them if 'IOU' or 'time' are used when these principles are first taught.

^[3] This figure can be restated as follows: if there is a transaction, it will have two elements: an item exchanged and a form of settlement; one will be a debit and the other a credit, which will have equal value; it does not matter how settlement is done – receipt of a form of settlement, such as cash, is a debit and payment is a credit. All entries should be in the same currency.

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Appendix 1

An interdisciplinary undergraduate accounting programme

Recommended programme: 24 modules over 3 years 18 accredited + 6 from other disciplines	Contributes to Accreditation
Year 1 Semester 1	
Business & Management	
Law for Accounting	✓
Maths & Statistics for Accounting	✓
Intro to Management Accounting	✓
Year 1 Semester 2	
Intro to Financial Accounting	✓
Principles of Finance	✓
Economics	✓
Biological and Cognitive Psychology	
Year 2 Semester 1	
Intermediate Financial Accounting	✓
Leadership Foundations: Managing Projects and Technologies	
Communication Studies	
Accounting Information Systems	✓
Year 2 Semester 2	
Taxation	✓
Financial Institutions & Markets	✓
Intermediate Management Accounting	✓
Leveraging Human Capital & Performance (HRM)	
Year 3 Semester 1	
Financial Accounting & Analysis	✓
Advanced Management Accounting	✓
Business Strategy	✓
Knowledge, Work & Organisations	
Year 3 Semester 2	
Integrated Reporting	✓
Accounting Theory	✓
Auditing	✓
Contemporary Issues in Accounting	✓