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AN INVESTIGATION INTO THE DEVELOPMENT OF NON-TECHNICAL SKILLS BY UNDERGRADUATE ACCOUNTING PROGRAMMES

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AN INVESTIGATION INTO THE DEVELOPMENT OF NON-TECHNICAL SKILLS BY UNDERGRADUATE ACCOUNTING PROGRAMMES

Non-technical skills are essential for today's professional accountant who operates in a dynamic socio-technical environment. Accounting degrees have continued to be criticised for failing to develop these skills to the required level. In the Scottish location of this study, employers have responded by seeking out graduates from non-accounting degrees who they perceive have better developed these skills.

The research aims to further the debate on non-technical skill development of accounting graduates, interpreted through a lens of institutional theory. Data was collected via a questionnaire to Big 4 ICAS trainees and subsequent interviews with Scottish academics.

Pressure, driven normatively by accreditation, for high-levels of technical content was found to result in accountancy degree providers requiring to make prioritisation decisions regarding the development of non-technical skills. Accountancy degree providers appeared to prioritise interpersonal and communication skills at the detriment of intellectual skills. Un-actioned, this could threaten the institutional legitimacy of accountancy degrees.

Keywords: Accounting Education; Intellectual Skills; Interpersonal and Communication Skills; Accreditation; Institutional Theory.

1.0 Background to Study

Accountancy has long been established as an elite profession (Walker, 2004). The quality of those entering the accountancy profession plays an important role in maintaining this professional status (POBA, 2004). Western Europe, the US and Canada have predominantly all-graduate models for entry into the accountancy profession. This all-graduate model is believed to enhance the professional status of the accountancy profession (Walker, 2004; Annisette and Kirkham, 2007; Gammie and Kirkham, 2008). In America, Canada and many European countries, accountancy bodies require new trainee entrants to have undertaken accountancy at university. In the UK, the professional accountancy bodies do not require trainee entrants to have a degree;¹ and of those who are entering as graduates to the UK professional bodies, many do not hold an accounting degree (FRC, 2018).²

When recruiting graduates, the Big 4³ accountancy firms cite no preference for an accounting, or even a business orientated degree. Ernst and Young (2017, p.1) comment that *'It's your intellectual ability and natural strengths that matter to us. Some of our highest achievers have studied subjects totally unrelated to the work they do'* and some accountancy recruiters have expressed a preference for those who have not undertaken an accounting degree (Gray, McPhail and Collison, 2001). If non-accounting graduates are preferred over

¹ Although none of the UK professional accountancy bodies require student entrants to have a degree, non-graduate student entrants represent only a minority for the professional bodies whose members qualify as Chartered Accountants. Only members of the Institute of Chartered Accountants of Scotland (ICAS), Institute of Chartered Accountants in England and Wales (ICAEW) and Chartered Accountants Ireland (CAI) qualify as Chartered Accountants in the UK. The percentages of graduate entrants (in 2017) of each of these professional bodies who do not hold a degree are as follows: ICAEW: 26%; CAI: 8% and ICAS: 00% (FRC, 2018).

² The number of graduate entrants to training in 2017 who hold a relevant degree (being a degree that qualifies the trainee for exemptions from certain examination stages) are as follows: ICAEW: 24%; CAI: 74%; ICAS: 39%; The Association of International Accountants (AIA): 24%; Association of Chartered Certified Accountants (ACCA): 23%; Chartered Institute of Management Accountants (CIMA): 36% and Chartered Institute of Public Finance and Accountancy (CIPFA): 18% (FRC, 2018)

³ Big Four firms comprise Ernst and Young, PriceWaterhouseCoopers (PWC), KPMG and Deloitte.

accounting graduates when competing for coveted Big 4 trainee accountancy positions, this will be of concern to accounting degree providers who often advocate their graduates' prowess at obtaining Big 4 appointments as a marketing tool (*inter alia* LSE, 2019; The Robert Gordon University, 2019, University of Strathclyde, 2019).

In seeking explanation for why accounting graduates are not preferred by large accountancy firms, consideration is given to the criticisms which have been levied at accounting degrees. A recurring criticism is the detrimental influence of professional accreditation on accounting degrees resulting in an overly technical education which replicates the professional body syllabus at the expense of a more liberally based education⁴ (Ferguson, Collison, Power and Stevenson, 2010; Lister, 2010; Wilson 2011, Ellington and Williams, 2017). This overly technical curriculum has furthermore led to accounting degrees being criticised for failing to develop the non-technical skills⁵ required by accounting graduates (Zaid and Abraham, 1994; Morgan, 1997; Gray, et al., 2001; Kavanagh and Drennan, 2008; Wilson, 2011; Howecraft, 2017) and there is evidence that graduate recruiters and professional bodies are of the view that non-accounting graduates have superior non-technical skills (Gray, et al., 2001).

Whilst the development of non-technical skills by undergraduate programs could be achieved through both a content-orientated or instructional-orientated approach, both are

⁴ Despite this focus on professional curriculum, graduates with an accounting degree do not outperform graduates with a non-accounting degree in professional accountancy examinations (Douglas, 2017).

⁵ A variety of terms have been used to describe the development of non-technical skills including 'soft', 'generic' and 'vocational' (Arquero et al., 2001; Jackling and de Lange, 2009; Crawford, Helliard and Monk, 2011; QAA, 2007). International Education Standard 3 identifies five 'skill' categories that are required to be developed prior to qualifying as a professional accountant: intellectual; personal; interpersonal and communication; organisational and business management; technical and functional (IFAC, 2010). This research identifies four of the five skill categories, with the exclusion of 'technical and functional' skills, as being relevant to this study as non-technical skills and this is the phrase used thereafter in this paper to encompass all these skills. Technical and functional skills are excluded due accounting specific skills being included in this category which are not relevant to non-accounting graduates.

hindered by accreditation. A content-orientated approach where non central (technical) material is separately taught is hindered by the lack of space after accreditation requirements are met (Duff and Marriott, 2017). An instructional-orientated approach, where alternative instructional teaching strategies are used to create favourable context and conditions for developing non-technical skills within accounting topics is limited by accreditation directly, though restrictions on assessment methods (Apostolou and Gammie, 2014) and indirectly through influencing the perception of what should be taught, namely technical accounting material. (Humphrey, Lewis and Owen, 1996)

Editorials and commentaries have, in particular, heavily criticised the development of intellectual skills by accounting educators (Lister 2010; Scott, 2010; Sangster, 2010; Wilson, 2011; Hopper, 2013). Intellectual skills are identified as key skills for today's accountants who operate in a dynamic socio-technical context where change is constant (Bedford et al, 1986; Albrecht and Sack, 2000, Wilson, 2011, IAESB, 2018). An education in which the content is primarily technical with instructional techniques designed for information download, will not prepare a graduate to navigate career as a professional accountant in this dynamic environment but will quickly become outdated as new accounting standards are released, new technology developed and the role of the professional accountant changes. In addition, as the accounting profession around the world continues to face accounting scandals, the IAESB has identified the development of professional skepticism as a key priority in responding to this criticism and maintaining the standing of the profession, with intellectual skills identified as key underpinning skills (IFAC, 2015).

This research aims to investigate these observations with the collection of empirical data. The objectives and contributions made by this paper are as follows:

(1) To critically compare the perception of non-technical skills developed at university by accounting and non-accounting graduates who go on to complete an Institute of Chartered Accountants of Scotland (ICAS) training contract with one of the Big 4 firms.

Substantial worldwide research has been undertaken to assess how employers (Morgan, 1997; Arquero, Antonio, Hassall and Joyce, 2001; Gray et al., 2001; Gammie, Cargill and Gammie, 2004; ACCA, 2008, Riley and Simons, 2016), professional bodies (Gray et al., 2001) and academics (Morgan, 1997; Hill and Milner, 2006; Gammie, Hamilton and Cargill, 2010; Howcroft, 2017) perceive the development of non-technical skills on accountancy degrees. Outside the UK, the opinion of graduates has also been sought (Deppe, Sonderegger, Stice, Clark and Steuling, 1991; Zaid and Abraham, 1994; Jackling and de Lange, 2009; Wells, Gerbic, Kranenburg and Bygrave, 2009) but no comparison to non-accounting graduates has apparently been undertaken. The study of the perception of graduates in the UK is more limited. Hassall, Joyce, Arquero and Donoso (2003) and Webb and Chaffer (2016) both sought the opinion of CIMA trainees on skills development. Webb and Chaffer (2016) asked CIMA trainees to rate the extent to which opportunities for skills development were exploited in their degree, and found that accountancy degrees were comparable to other degrees. Hassall et al. (2003) asked CIMA trainees (comprising graduates and non-graduates) to rate the skill development exhibited by their fellow CIMA trainees but did not make a comparison in skill development exhibited between those who held a degree (accounting or otherwise) and those who did not.

This research will contribute to the limited literature in the area by first seeking the opinion of ICAS trainees, through a questionnaire, on how well they perceive non-technical skills have been developed during their degrees. The responses of accounting and non-accounting graduates will be critically compared, providing an insight into the comparative non-technical skills development which has previously been highlighted by employers and professional bodies as an issue for accounting graduates (Gray, et al., 2001). This comparison has not been made in previous literature and hence addresses a gap, as identified by Howcroft (2017) who articulate the need for research into how university education prepares accounting graduates for their subsequent employment. The Scottish location allows for this relatively unique study to be undertaken due to the route into professional accountancy qualification being open to both accounting and non-accounting graduates⁶ in comparison to many western countries which require the study of accountancy at university (Gammie, Hamilton and Cargill, 2010) as a precursor to a professional accounting qualification.

(2) To investigate the institutional practices and beliefs that influence the development of non-technical skills in Scottish accountancy degrees.

The key impediment to non-technical skill development identified in the literature is a lack of space driven by a belief of accounting degree providers to maximise accreditation (Wilson, 2011). This appears to be a continuing worldwide problem (Apostolou and Gammie, 2014) with Hancock et al., (2014) providing a recent Australian example which

⁶ Graduates seeking an ICAS chartered accountancy qualification must complete a three year training contract comprising three stages of ICAS examinations (accountancy related graduates are usually exempt from the majority (5/6 examinations) of the first stage) and relevant work experience with an approved employer.

identified that accounting degrees cannot develop all the attributes desired by stakeholders but do need to do more to integrate non-technical skills into the curriculum. Following on from the aforementioned questionnaire, this research will investigate the institutional practices and beliefs that currently influence the development of non-technical skills in Scottish accountancy degrees through a second data collection comprising interviews with Scottish academics with oversight of Accountancy degrees. In particular, this paper will contribute to understanding the prioritisation given to non-technical skill and the implication for the future of accounting degrees of those skills given lower prioritisation.

Whilst this study is based in Scotland, it is of interest to an international readership. The criticisms levelled at accountancy degrees for failing to develop the required non-technical skills are worldwide and this study provides a unique insight into how the skill development of accounting graduates compares to graduates from non-accounting degrees by one country facing these common criticisms. This may also be of interest to other international bodies, such as The Chartered Accountants Australia and New Zealand, who have expanded their admission criteria to include non-accounting graduates.⁷ In addition, this paper provides a theoretical framing which may aid the understanding of why non-technical skills continue to receive insufficient development despite ongoing criticism.

This paper will proceed as follows: after providing the context of the study the paper will articulate an overview of institutional theory, particularly in relation to securing legitimacy for undergraduate accounting degree programmes, as the framework for

⁷ Those who do not have an accredited accounting degree have three options for entry. Firstly, to complete an conversion course at an accredited tertiary. Secondly, a CA foundation pathway where online learning units, for identified knowledge gaps, are completed and examined with this being delivered by an external university. Thirdly, for those significant workplace experience can, with written support of their employer, enrol in the exam only without having to undertake the online tuition (CA ANZ, 2019)

interpretation. A literature review on non-technical skills development by accountancy degree providers, with particular focus on the recent criticism regarding intellectual skills development, will follow. Details of the research methods used, namely a questionnaire and semi-structured interviews will be given and the research findings will be presented followed by the final conclusions.

2.0 Theoretical Framework

Institutional theory, with a particular focus on institutional legitimacy, is used to analyse the pressures exerted on Scottish accountancy degree providers which impact on the non-technical skills developed. Turner (1997 p.6) defines social institutions as:

a complex of positions, roles, norms and values lodged in particular types of social structures and organising relatively stable patterns of human activity with respect to fundamental problems in producing life-sustaining resources, in reproducing individuals, and in sustaining viable societal structures within a given environment.

A central concept to institutional theory is institutional legitimacy (Deephouw and Suchman, 2008). Suchman (1995, p.574) defines legitimacy in this context as:

generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions.

Legitimate organisations perform well despite potential inefficiencies as they are better at getting resources from other organisations who perceive them to be legitimate (Friedland and Alford, 1991). Scott (2014) identifies three pillars which each form a basis of institutional legitimacy: regulatory, normative and cultural-cognitive.

The regulatory element involves the influence on behaviour through the establishment of rules, inspection of conformity to these rules and resulting rewards for compliance or punishment for non-compliance (Scott, 2014). Palthe (2014, p.61) summarises the regulatory element as the 'have to' and compliance with these rules form a basis of legitimacy. The normative element includes both values, being the conception of ideal or the desirable, along with the development of a standard which allow current structures and behaviours to be evaluated, and norms, the way things should be done (Scott, 2014). Scott (2014) describes this normative pillar as actors behaving in a way which is believed appropriate given the situation and their role in it rather than what is in their personal best interests. Palthe (2014, p.61) summarises this normative pillar as the 'ought to.' Legitimacy under this pillar comes from moral governance that these social norms are being adhered to (Scott, 2014). The cultural-cognitive element is based on actors behaving in a certain fashion not because they have to or ought to, but because it is taken for granted that this is the way to behave (Scott, 2014). This implies the behaviour is assured without questioning and not an active decision as required for the regulatory element or normative element. This element draws its legitimacy from a shared mind set and understanding based on cultural support (Powell, 2008). Legitimacy comes from conformity behaviour being recognisable, comprehensible and culturally supported (Scott, 2014).

This paper will analyse the beliefs and practice which influence the decision by Scottish accountancy degree providers on the extent to which non-technical skills are developed. In particular, consideration will be given to what institutional pressures, analysed in the context of the pillars identified by Scott (2014), influence this decision. Crawford, Hellier and Monk (2011, p.122) identified that the views of

accounting academics involved in teaching and/or research in the UK university sector should arguably 'constitute a cohesive institutional set of beliefs'. This paper considers a subset of this institutional population namely Scottish accounting academics who have oversight of accounting courses.

3.0 Review of Literature

3.1 Non-Technical Skills Required in Accounting Education

Around the globe, there is little dissent in the literature on the importance of non-technical skill development for accountants (Morgan, 1997; Arquero et al., 2001; Hill and Milner, 2006; Gammie et al., 2010; Kavanagh and Drennan, 2008; Riley and Simons, 2016, Howcroft, 2017). Despite this acceptance, academics (Morgan, 1997, Wilson, 2011) and employers (Morgan, 1997; Gray et al., 2001; Arquero et al., 2001) have posited that university accounting education has failed to develop non-technical skills to the required level. Literature has identified this has largely been driven by a philosophy of accounting programmes to prioritise professional accreditation which results in a primarily technical curriculum (Ferguson et al, 2010; Wilson, 2011; Hopper, 2013; Duff and Marriott, 2012, Howcroft, 2017). The growing commercialism of the university sector has been identified as a key reason for the importance of accreditation (Ferguson et al., 2010; Wilson, 2011; Duff and Marriott, 2012; Howcroft, 2017). Students, viewed as customers, are identified as driving curriculum content both in the UK (King, 1995) and globally, such as the US (Scott, 2014). Accreditation is viewed as a key marketing tool to these perspective students (Duff and Marriott, 2012, Stevenson, Crawford and Ferguson, 2016; Duff and Marriott, 2017, Ellington and Williams, 2017). With this commercial pressure for accreditation showing no signs of abating, accounting educators have to determine which non-technical skills to prioritise in the remaining space.

Research to date has identified a wide range of non-technical skills required by accountants. Most of these skills can be categorised into the non-technical skills categories identified by International Education Standard (IES) 3 requirements prior to qualifying as a professional accountant: intellectual skills, personal skills, interpersonal and communication skills and organisational and business management skills (IFAC, 2010)⁸. Members of IFAC, which includes all the UK professional accountancy bodies, should ensure their education provisions adhere to IES 3⁹. In addition, the skills falling into these categories have also all been incorporated into the Common Content (2015) Skills Framework.¹⁰ The literature will therefore be discussed in the context of these four skill categories.

3.2 Intellectual Skills

Intellectual skills are skills which allow problems to be solved, decisions to be made and judgement to be exercised and includes skills such as critical analysis, problem solving and analytical thinking (IFAC, 2010). Researchers have confirmed the importance of intellectual skills in accounting education (Arquero et al., 2001; Hassall et al., 2003; Gray et al., 2001; ACCA, 2008; Kavanagh and Drennan, 2008, Frecka and Reckers, 2010; Crawford et al., 2011; Howcraft, 2017). Intellectual skills are also recognised by Accountancy bodies round the world as being required to be developed by accountancy educators, as evidenced, by example, though the inclusion in the American Institute of Certified Public Accountants' (2013) Core Competencies. In addition, intellectual skills, such as decision making and exercising judgement, have been identified as key underpinning skills for exercising

⁸ IES 3 was revised in 2015 post data collection. The skills in the revised standard are broadly the same as the standard used at the time of data collection.

⁹ IES 3 in one of eight education standards issued by IFAC. Professional bodies are obligated to comply with all of these standards.

¹⁰ The Common Content (2015) Skills Framework identifies the skills required by entry level professional accountants and has been developed through a collaboration of 9 European accountancy bodies (including ICAS, ICAEW and CAI).

professional scepticism (IFAC, 2015) with improving professional scepticism being a current project of the International Accounting and Audit Standards Boards, the International Ethics Standards Board for Accountants and the International Accounting Education Standards Boards (IFAC, 2017).

However, UK accountancy firms have previously expressed concern over the development of intellectual skills by accounting degrees with 77% of the accountancy firms sampled by Gray et al. (2001) specifically wanting to see an improvement in the critical thinking ability of accounting students. Gray, et al. (2001) also sought the views of the professional bodies as part of the same study and found they shared this concern over accounting graduates:

the students that we have the most difficulty with (in) thinking independently are students who have come from universities (with) solid accounting degrees...and if you asked them a challenging question they can't answer it. I don't mean a technical challenging question, but something that requires a discussion of wider issues (Gray et al., 2001, p. 144).

A question is raised as to whether the criticism levelled at accounting degrees by Gray et al. (2001) is still applicable today. The work of Crawford et al.(2011) would indicate that progress has been made with their study finding that UK academics identified intellectual skills as the most commonly taught skill category from IES 3. Despite this, the aforementioned concern over the failure to develop intellectual skills continues. Lister (2010) and Scott (2010) have both expressed concerns that undergraduate accounting education is a 'technical training camp' which fails to develop the intellectual skills which should be at the heart of university education. Wilson (2011) also expressed concern over the influence of professional training on accounting degrees suggesting that universities should develop capability, which incorporates understanding, analysis and synthesis and application in terms

of Bloom's (1956) taxonomy, whilst professional training should develop competence, incorporating knowledge and application in terms of Bloom's (1956) taxonomy. Whilst both capability and competence are required by a professional accountant, Wilson (2011) argues that developing competence at university detracts from capability development.

3.3 Personal Skills

Personal skills relates to attitudes and behaviours (IFAC, 2010). These skills allow individual learning and personal improvement and include capabilities such as self-management, using initiative and the ability to self-learn (IFAC, 2010). The importance of these skills for accountants has been confirmed by several research studies (Arquero et al., 2001; Hassall et al., 2003; Kavanagh and Drennan, 2008; Hancock et al., 2009).

The ability to self-learn has been identified as one of the most important attributes for accountants (Bedford et al., 1986; AECC, 1990; Patten and Williams, 1990; Adler and Milne, 1997; French and Coppage, 2000; Paisey and Paisey, 2004; Paisey and Paisey, 2007). This is due to the technical requirements of an accountant being subject to change as new technical legislation and guidance emerges (Paisey and Paisey, 2007). The increasing technical demands are also demonstrated by an ACCA (2008) survey which found that 93% of public practice respondents thought their role was becoming more technically demanding and specialised, primarily due to increased regulation and business complexity. In addition to learning new legislation, accountants also need to develop their knowledge in response to role changes as they progress through their careers. An accountant's role can either change in response to changing business practices (Howieson, 2003) or through career specialism and career changes. This is illustrated by the fact that although 86% of ICAS students currently

complete their training contract in public practice, the majority (75%) of ICAS practising qualified accountants do not work in public practice (FRC, 2018). This indicates accountants move into different roles subsequent to qualification and as such need to be able to learn the required specialised knowledge for each new role they undertake.

Despite the proliferation of research that stresses the importance of ‘learning to learn’, there is a paucity of literature on how effective university education has been in developing this skill for trainee accountants. One study which did examine this was Arquero et al. (2001). This study found that from the perception of CIMA employers, degree providers have responded to the need to develop a student’s ability to learn. This was demonstrated by ‘a commitment to life-long learning’ and the ‘ability to develop methods of effective learning’ being identified as the 3rd and 4th (from 20) best skills developed by graduates who go onto complete the Chartered Institute of Management Accountants (CIMA) qualification, surpassed only by two different IT skills (Arquero et al., 2001). This study does not differentiate, however, between those with an accounting degree and those with a degree from another discipline.

3.4 Interpersonal and Communication Skills

Interpersonal and communication skills are skills, which enable accountants to effectively work with each other, allow information to be received and transmitted effectively and reasoned judgement and effective decisions to be made (IFAC, 2010). Research has confirmed the importance of being able to work effectively with others (Berry, 1993; Ravenscroft, 1997; Arquero et al., 2001; Hassall et al., 2003; Gammie et al., 2004; ACCA, 2008; Kavanagh and Drennan, 2008; Hancock et al., 2009; Jackling and de Lang, 2009; Crawford et al., 2011, Howcraft, 2017). Furthermore, team working was identified as one of

the most important skills sought by ICAS employers when recruiting graduate trainees (Gammie et al., 2004).

Communication skills are the non-technical skills which have received the most attention in the literature with the importance of communication skills for accountants being identified by many (Deppe et al., 1991; Zaid and Abraham, 1994; Morgan, 1997; Arquero et al., 2001; Hassall et al., 2003; Gammie et al., 2004; ACCA, 2008; Kavanagh and Drennan, 2008; Bui and Porter, 2010; Jackling and de Lang 2009; Wells et al., 2009; Frecka and Reckers, 2010; Gray, 2010; Crawford et al., 2011; Riley and Simons, 2016). Indeed, communication skills are rated as one of the most desirable skills that employers look for in graduate accountants (Arquero et al., 2001; Gray et al., 2001; Gammie et al., 2004) and ACCA practitioners rate communication skills as the most valuable skill to their organisation (ACCA, 2008).

3.5 Organisational and Business Management Skills

Organisational and business management skills are required when managing other people and managing projects (IFAC, 2010). This includes skills such as leadership, delegation and the ability to exercise professional judgement (IFAC, 2010). The importance of organisational and business management skills for accountants have also been confirmed by research (Arquero et al., 2001; Hassall et al., 2003; ACCA, 2008; Kavanagh and Drennan, 2008; Jackling and de Lang, 2009). Despite this, UK academics identify these skills are not commonly taught (Crawford et al., 2010). The outcome of this is evident in the assessment of graduate development of organisational and business management skills by CIMA employers who identified certain skills, such as organising and delegating tasks, as being poorly rated in terms of skills developed at university (Arquero et al., 2001).

3.6 Summary

Whilst the literature is conclusive on the importance of non-technical skills for accountants there is debate over how well accounting degrees are developing the non-technical skills of their graduates. If accounting degrees are to retain their currency as an educational platform on which a career as a professional accountant is launched, further consideration needs to be given to non-technical skills development in accounting degrees in order that graduates from this educational background can compete on a more equitable non-technical skills playing field for highly coveted trainee accountancy positions.

4.0 Research Method

A mixed method approach with two data collection phases was undertaken. Firstly, in order to obtain the perception of graduates on their non-technical skill development at university, an online questionnaire was sent to all UK Big 4 trainees who commenced an ICAS training contract in 2010. The questionnaire was completed mid-way through the trainees' 3 year training contract with data collection completing in 2012. An online questionnaire was selected in order to reach the high number of participants located in geographically dispersed offices (Gall, Gall and Borg, 2003). The questionnaire was distributed, along with a covering email explaining the research, using Survey Monkey in agreement with the Big 4 firms. The covering email and ease of completion through the online format aimed to maximise completion with non-response being identified as a key risk of questionnaires (Saris and

Gallhofer, 2014). Due to data protection, the questionnaire was provided to each of the Big 4 firms who agreed to send this out to their trainees who met the selection criteria.

Completion was at the discretion of those completing the questionnaire and data collected from the questionnaire was password protected for security purposes.

The sample was selected as it was expected Big 4 trainees would have a similar academic profile, with all Big 4 firms at the time of collection requiring between 280-320 UCAS points¹¹ and at least a second class (upper division) degree at honours level.¹² In addition, all trainees would have been exposed to a similar training environment. These Big 4 trainees made up 71% of the students who had registered with ICAS in 2010.¹³

The questionnaire comprised closed questions which could be coded for statistical analysis. This included two key areas of data collection:

- (1) Bio-data Factors: These questions comprised background factors about the trainees, such as degree undertaken.
- (2) Specific Non-Technical Skills: 31 non-technical skills were identified, and developed into questions, from IES 3 (shown in Table 2). Trainees were asked to rate on a likert scale (using 1=no development to 7=full development) how well they believed the 31 identified non-technical skills (detailed in Table 2) were developed through their university education.

¹¹ The UCAS Tariff is the system in the UK for allocating points to qualifications and is used for entry to higher education (UCAS, 2013). For example, 320 UCAS points could be achieved by obtaining one 'A' grade and two 'B' grades in A-Level examinations in England. Students usually require 3 A-Levels to gain access to university education.

¹² This represents the award made at undergraduate level. Depending on performance in a student's honours years, different grades will be awarded to passing students: First Class (representing the highest grade); Second Class (Upper Division); Second Class (Lower Division) and Third Class.

¹³ FRC (2011) states that 808 students registered with ICAS in 2010. Big 4 firms confirmed a total of 574 (71%) commenced a training contract with them in 2010.

The questionnaire was piloted through personal contacts and minor adjustments made before being sent to the research population, along with a covering email. Data was entered into SPSS for statistical analysis and tests of significance performed.

The questionnaire results identified, from the perception of graduates, the output in terms of non-technical skill development from the respondents' university education. However, questionnaires cannot probe deeply into beliefs and attitudes (Borg, Borg and Gall, 2003) as required for the second research question. The results of the questionnaire were therefore followed up, in particular to identify the institutional practices and beliefs influencing the development of non-technical skills on accountancy programmes, through face to face interviews with those with oversight of Scottish accountancy degrees. This sequential explanatory research design, where qualitative interviews were used to explain and contextualise the findings of the quantitative questionnaire, fuelled the choice for the mixed methods approach (Creswell and Plano Clark, 2017).

Those with oversight of Scottish Accountancy degrees were defined initially as the Head of Department. Where universities were not structured with Head of Departments, their university website was reviewed to identify the most senior level academic with direct responsibility for the accountancy undergraduate degree, such as a programme leader. Where the person contacted felt they did not have a detailed overview of the accountancy degree, they delegated to an appropriate person, such as the programme leader. A summary of participants is shown below in Table 1.

Table 1: Interview Participants

Interviewee Code	Job Title	New or Traditional University
N1	Associate Director	New
N2	Programme Leader	New
N3	Head of Department	New
N4	Subject Leader	New
N5	Director	Traditional
N6	Senior Teaching Scholar	Traditional
N7	Programme Leader	New
N8	Head of Department	Traditional
N9	Head of Department	Traditional
N10	Head of Department	Traditional
N11	Programme Leader	Traditional

The trainees who completed the questionnaire had undertaken their university education in a wide range of locations in both the British Isles and overseas. When applying institutional theory, the institutional environment should be constant and it was therefore decided to focus on Scottish universities, who face a similar institutional environment, as a case study. Universities in the Scotland have a unique environment compared to other UK countries, for example in its four year degree structure¹⁴ and the way in which fees are charged¹⁵.

¹⁴ In England and Wales, three years is the standard completion time for an honours degree. In Scotland, undergraduates have the option of exiting after three years with an ordinary degree or after four years with an honours degree. The majority (70%) of Scottish graduates hold a four years honours degree (HESA, 2016).

¹⁵ The fee charged per student for undergraduate degree courses in Scotland is dependent on home location. Scottish residents and other non-UK EU residents (known as 'home' students) are subject to pay university fees at a level set by the Scottish Government (£1,820 in 2019 for accountancy degrees

Thirteen universities in Scotland offer an accountancy degree and interviews were secured with eleven of these. Of these, five were ‘new’¹⁶ post-92 universities and six were ‘traditional’ universities. No differences in responses were found between these two groups and as such the analysis has not differentiated between ‘new’ and ‘traditional’ universities.

Interviews were semi-structured to ensure comparable coverage but also allowed interviewees to expand on areas specific to their degree and areas of personal interest. The interview comprised a number of specific questions as well as prompts for follow up questions if these had not already been covered by the interviewees in response to earlier questions. The results (as per Table 2 and 3 with key statistical differences clearly highlighted) of the questionnaire were shared with the interviewees and their opinions sought. These results were shared after initial general questions on non-technical skill development so as to not bias the answers to earlier questions. Interviews were transcribed and transcriptions were analysed using NVivo software in order to bring out emerging themes. Two layers of codes were established within NVivo. Firstly codes to group together responses to the standard questions asked to all interviewees, such as ‘which non-technical skills do you develop on your accountancy degree.’ Secondly, codes to group together

(SAAS, 2019)) and this is paid for by the Student Awards Agency for Scotland (SAAS) assuming eligibility criteria are met by the applicant. Due to devolved governments, students from the rest of the UK can be charged fees, set by the individual Scottish university, of up to £9,250. This contrasts to universities operating in England, where fees of up to £9,250 can be charged directly to all UK and EU students, Wales where fees of up to £9,000 can be charged to home students and £3,925 for EU students and in Northern Ireland, where fees of up to £3,750 can be charged directly to all UK and EU students. For Scotland, England, Wales and Northern Ireland there is no restriction on the fee that can be charged to international students and overall, it is estimated undergraduate students from outside the EU are, on average, are paying £4,503 more than students from the UK and EU (Times Higher Education 2017).

¹⁶ In 1992 a number of educational institutions, commonly known as Polytechnics, were able to apply to award their own degrees and receive ‘university’ status. These are commonly referred to as ‘new’ universities in the UK with remaining universities known as ‘traditional’ universities.

emerging themes, such as the impact of accreditation. The interviews were completed in 2016 and averaged 62 minutes in length with the longest interview lasting 86 minutes and the shortest lasting 30 minutes.

Written consent was gained by each interviewee at the commencement of the interview which included consent for the results of the interviews to be published along with anonymous quotes from individuals. Transcriptions did not identify individual universities or participants and were stored on a password protected computer. This was explained to participants to minimise the anonymity risks influencing respondents, a key drawback of interviews (Gall, Gall and Borg, 2003).

5.0 Analysis of Results: Questionnaire

Due to data protection, the questionnaire was provided to each of the Big 4 firms who then sent this to all trainees (n=574) who commenced an ICAS training contract in 2010. 104 trainees completed the questionnaire giving a useable response rate of 18.11%.¹⁷ This response rate is comparable with Gray (2010, 19.2%) and Arquero et al. (2001, 22.5%). Due to the response rate, additional tests for non-response bias were performed. Statistical data on age profile, gender and relevance of degree is published annually by the Financial Reporting Council for the total ICAS trainee population. The sample for this study comes from one year group of the total ICAS population. Chi-Squared tests were performed on all three categories (age, gender and degree relevance) to identify if the sample was representative of the full year group. No indication of response bias was identified as there was no significant differences between the sample and the FRC population (Gender¹⁸: $\chi^2(1)=1.05$, p=0.305; Age¹⁹: $\chi^2(1) = 0.710$, p= 0.399 and Relevance of Degree²⁰): $\chi^2(1) = 3.699$, p=0.54. In addition, there is nothing to suggest this year group is not representative of the full ICAS trainee population as the profile of ICAS trainees is similar across years groups, with the statistics for age, gender and degree relevance similar in 2009, 2010, 2011 (FRC, 2010, 2011, 2012).

The sample was further categorised into two groups: those with an accounting degree (n=30) and those with a non-accounting degree (n=74). The classification was based on

¹⁷ This relatively low response rate may reflect the way in which the questionnaire was disseminated. As contact could not be made directly with the students, covering emails from the firm and follow up emails were limited to what each firm was willing to do.

¹⁸ Based on FRC (2010) Education statistics for full ICAS trainee population. Statistics were similar for 2009 and 2011 (FRC, 2010, 2011, 2012).

¹⁹ Average age based on FRC (2011) Education statistics as 2011 is the mid-way point of a three year training contract. Weaker p value is expected due to a number of students taking more than 3 years to complete their training contract.

²⁰ Based on FRC (2010) Education statistics for full ICAS trainee population. Statistics were similar for 2009 and 2011 (FRC, 2010, 2011, 2012).

those with 'Accounting' in their degree title.²¹ The non-accounting graduates came from a wide range of degree backgrounds, the most popular being economics (n=12), mathematics (n=8) and law (n=7) to more unusual degrees such as genetics and modern and medieval languages. The majority of trainees came from traditional UK universities (accounting n=27 and non-accounting n=69). The remaining non-accounting graduates were from overseas universities (n=5) and the remaining accounting graduates were from UK 'new' universities¹⁹ (n=2) and overseas universities (n=1). Whilst it is unknown if this split between 'traditional' and 'new' universities reflects the full population of Big 4 trainees, it does give an interesting insight into possible recruitment policies.

The questionnaire examined how accounting and non-accounting graduates perceived their development at university of the 31 IFAC identified non-technical skills. Due to the high number of individual skills, an initial overview comparison was made between accounting and non-accounting graduates' rating of their university non-technical skills development by summarising the 31 non-technical skills into the four skill categories identified by IFAC: Intellectual skills, Personal skills, Interpersonal and Communications skills and Organisational and Business Management skills.²² The results of this are provided in Table 2.

²¹ Consideration was also given to accreditation but this was not deemed an appropriate split due to the high number of students with partly accredited degrees. In addition, it was noted that some students with potentially accredited degrees did not apply for exemptions due to their firms requiring them to sit the Test of Competence examinations, from which exemptions are gained, regardless of the accreditation status of their degree.

²² The questionnaires were entered into SPSS for statistical analysis. For likert scales, the ordinal data required non-parametric tests to be undertaken. To test the difference between accounting and non-accounting students for likert ratings the Mann-Whitney test was used (Field, 2009).

Table 2: Comparison of Skill Categories between Accounting and Non-Accounting Degree Holders

	Accounting Mean	Accounting Rank	Non Accounting Mean	Non Accounting Rank	Mann-Whitney U	P Value
Intellectual	5.05	3	5.56	1	733**	.007
Personal	5.12	1	4.80	2	885	.106
Interpersonal and Communication	5.07	2	4.67	3	909	.149
Organisational and Business Management	4.51	4	3.88	4	774*	.016

**=Significant at 1% level *=Significant at 5% level

Note: This table shows the graduates responses of their perception of how well their university education developed identified non-technical skills. The overall skill category ratings are determined by the sum of the individual skills identified by IES 3 for each category. The responses to individual skills were on a seven-point Likert scale where 1 was no development and 7 was full development.

The results indicate that both accounting and non-accounting graduates were of the opinion that their university education did develop non-technical skills in all four categories to some extent. With the exception of organisational and business management skills for non-accounting graduates, the average mean exceeds the midpoint of 4 on the 7 point rating scale (with 1=no development to 7=full development) for all categories of non-technical skills.

The intergroup comparison at category level indicates that accounting degrees are placing focus on different non-technical skills compared to other degree providers. Of

particular note is the lower perceived development of intellectual skills by accounting graduates ($\bar{x}=5.05$ vs. $\bar{x}=5.56$) despite the aforementioned literature highlighting the importance of developing these skills at university (Arquero et al., 2001; Gray et al., 2001; ACCA, 2008; Kavanagh and Drennan, 2008, Frecka and Reckers, 2010; Crawford et al., 2011) and academics specifically identifying developing intellectual skills as one of their main aims (Howcraft, 2017). However, this lower rating is perhaps not surprising given concerns raised by academics (Lister, 2010; Scott, 2010; Wilson, 2011).

However, to enable a fair critique of accounting degrees, consideration should be given to which of the IFAC skills should be developed at university. The 31 listed IFAC skills are the skills that accountants require on qualification as an accountant, not on completion of a university degree. Recent research has identified different perceptions over what role universities have in developing these skills (Crawford et al, 2011). Consideration was therefore given to guidance from the Quality Assurance Agency²³ (QAA) for higher education on which skills should be developed through university education in the UK, both generically by all degrees and more specifically by individual subjects, such as accounting (QAA, 2007, 2008). Higher education providers in the UK are required to comply with the provisions of the UK Quality Code resulting in a regulatory pressure. The 31 IFAC skills were mapped to the QAA skills required by all degrees (detail shown in appendix 1) to identify which IFAC skills should be, according to QAA, developed by all degrees.²⁴ Table 3 shows how accounting and non-accounting graduates rated their development of all 31 IFAC

²³ The QAA is an independent body in the UK that promotes quality in higher education. It protects public interest by reviewing how higher education establishments maintain their academic standards and quality. It is a key advisor to the UK Government regarding whether an institution can be called a university and award degrees (QAA, 2013).

²⁴ The comparison initially excluded skills required to be developed by accounting degrees but not all degrees. This allowed for a fair comparison as non-accounting degrees were not being compared on skills that only accounting degree providers are required to develop.

skills with significant differences between the two groups highlighted. The IFAC skills which should be developed at university by all degrees (as identified from QAA (2008) guidance) are identified through shading in Table 3.

Table 3: Development of IFAC and QAA skills by Accounting and Non-Accounting Graduates

IFAC Skills (with shaded skills indicating skills specifically matched to QAA Guidance ²⁵)	Acc Mean	Acc Rank	Non-Acc Mean	Non-Acc Rank	Mann-Whitney U	P value (Acc vs. Non Acc)
INTELLECTUAL SKILLS						
Locate, obtain, organise and understand information from human, print and electronic sources	5.27	8	5.62	5	850	.052
Think logically and analytically	5.13	11	5.82	1	639**	.000
Capacity for inquiry	4.83	21	5.51	8	723**	.004
Capacity for research	5.53	3	5.61	6	981	.334
Effectively reason	5.10	12	5.64	4	795*	.019
Perform critical analysis	5.07	14	5.61	6	796*	.019
Identify and solve unstructured problems which may be in an unfamiliar setting	4.43	24	5.11	13	847	.053
PERSONAL SKILLS						
Self-Manage	5.63	2	5.70	3	1045	.623
Use initiative	5.20	10	5.23	10	1081	.827
Influence others	4.50	23	4.26	22	1023	.536
Self-Learn	5.73	1	5.73	2	1070	.763
Select and assign priorities within restricted resources	5.40	6	4.91	15	884	.096
Organise work to meet tight deadlines	5.50	5	5.39	9	1075	.793
Anticipate and adapt to change	4.87	20	4.69	16	1044	.622
Consider the implications of professional values, ethics and attitudes in decision making	4.90	19	3.66	25	685**	.002
Exercise professional scepticism	4.33	25	3.66	25	843	.052

Table continued on next page

²⁵ Based on QAA (2008) guidance on the skills required for an honours degree in England, Wales and Northern Ireland. This was compared and found to be comparable to skills required for an honours degree in Scotland (QAA, 2001). The only difference being the Scottish guidance did not specifically require 'Project Management'.

IFAC Skills (with shaded skills indicating skills specifically matched to QAA Guidance)	Acc Mean	Acc Rank	Non-Acc Mean	Non-Acc Rank	Mann-Whitney U	P value (Acc vs. Non Acc)
INTERPERSONAL AND COMMUNICATION SKILLS						
Work with others in a consultative process, to withstand and resolve conflict	5.03	15	4.31	21	778*	.015
Work in teams	5.53	3	4.68	17	739**	.007
Interact with culturally and intellectually diverse people	5.40	6	5.19	12	1081	.829
Negotiate acceptable solutions and agreements in professional situations	4.23	29	3.66	25	908	.141
Work effectively in a cross-cultural setting	5.00	17	4.62	18	999	.415
Present, discuss, report and defend views effectively through formal, informal, written and spoken communication	5.27	8	5.20	11	1044	.625
Listen and read effectively, including a sensitivity to cultural and language differences	5.03	15	5.00	14	1089	.874
ORGANISATIONAL AND BUSINESS MANAGEMENT SKILLS						
Strategic Planning	4.73	22	4.36	20	957	.260
Project Management	5.10	12	4.12	23	747**	.008
Management of people and resources	4.33	25	3.46	31	764*	.011
Decision Making	4.97	18	4.51	19	915	.147
Organise and delegate tasks	4.23	30	3.61	29	832*	.042
Motivate and develop people	4.03	31	3.55	30	882	.096
Leadership	4.33	25	3.65	28	830*	.041
Exercise professional judgement and discernment	4.33	25	3.76	24	878	.090

**=Significant at 1% level *=Significant at 5% level

Note: This table shows the graduates responses of their perception of how well their university education developed identified non-technical skills. The responses to individual skills were on a seven-point Likert scale where 1 was no development and 7 was full development.

Both groups rated the development of self-learning highly, with the same mean rating of 5.73 (on a 7 point scale). Indeed the ability to self-learn was rated as the most developed skill for accounting graduates and the second most developed skill for non-accounting graduates. The high rating of the ability to self-learn augers well for degree providers as it indicates conformity with the highly publicised need for all degrees (Fallows and Steven, 2000; French and Coppage, 2000; Harvey, 2000) and specifically accounting degrees (*inter alia* Bedford et al., 1986; Paisey and Paisey, 2007) to develop this ability.

Accounting graduates rated their development of consideration of ethics/professional values and a number of the organisational and business management skills significantly better than non-accounting graduates. This is unsurprising as it is logical to expect these to be better developed on a business orientated degree. Accounting graduates also rated the two skills regarding working with others significantly higher indicating more emphasis is placed on this by accounting degree providers. Team working was the only one of the 31 IFAC skills which was identified from QAA (2007, 2008) guidance as being specifically required to be developed by accounting degrees but not a generic skill required by all degrees (see Appendix 2 for comparison)²⁶. This appears to be reflected in the results with the significantly higher rating of team working skills by accounting graduates.

Perhaps most interesting, is the higher rating (both in terms of mean and rank) of all the IFAC intellectual skills, which were all synonymous with the QAA (2008) guidance, by non-accounting graduates. With significantly higher ratings by non-accounting graduates for

²⁶ Team working may be required by other degrees but as it is not required by all degrees team working is not included in the QAA generic guidance for all degrees.

thinking logically and analytically ($U=639$, $p=0.000$), capacity for inquiry ($U=723$, $p=0.004$), effective reasoning ($U=795$, $p=0.019$) and performance of critical analysis ($U=796$, $p=0.019$).

Overall, the non-accounting graduates had a wider range of mean values over the range of skills (range = 2.36) compared to accounting graduates (range = 1.7). This indicates, from the perception of graduates, accounting degrees are trying to develop a wider range of skills to a similar level whilst other degrees appear to be prioritising certain skills, namely self-learn/manage and intellectual skills. This is potentially a concerning position for accountancy degree providers with intellectual skills being identified as the fundamental skill of higher education (Newman, 1852; Gray et al 2001; Wilson, 2011).

The questionnaire results gave an interesting insight into the overall perception of those who had gone on to complete an ICAS training contract with a Big 4 firm. Whilst perception based measures are the most commonly used measure of non-technical skills development (Ballantine and Mccourt Larres, 2009), it is important to recognise that rating differences could be due either to actual difference in the educational experience, reported accurately by the individual's perception, or to higher self-belief. However, with previous research identifying those with higher self-belief will perform better (Masles, 2013) both of these possible explanations for different ratings impact on the performance of non-technical skills warrant further investigation.

Therefore in order to mitigate the limitations of perception, along with the limitation in terms of number of respondents, subsequent interviews with those who have oversight of accountancy degrees were undertaken to triangulate and expand on the findings and further substantiate the conclusions.

6.0 Analysis of Interviews and Discussion

Interviewees were asked an open question about which non-technical skills they developed on undergraduate accounting courses. Responses were categorised into the IFAC skill categories as per the questionnaire. Skills from the interpersonal and communication category were the first skills identified by all but one respondent (who identified intellectual skills) and were discussed and elaborated in substantially more detail, examples included interviewee N9 who responded *group working was very, very important. Accountants have to be able to communicate. Communication is really at the heart of everything that we do. So all the way through the course we'll try and develop team working* and also interviewee N3 commented it was *certainly communication skills that were developed and specifically interpersonal team working type skills.*

Overall, all interviewees identified at least one skill from the interpersonal and communication category, with working in teams (n=9) and presenting, discussing, reporting and defending views effectively through formal, informal, written and spoken communication (n=8) being the most frequently identified by the interviewees. Just over half (n=7) mentioned skills from the intellectual category and only one highlighted a skill from the personal skill category. Whilst later questions and probing revealed further skill development, if this first question is used as a proxy for importance, these initial responses are in line with the findings of the questionnaire in that intellectual skills are not prioritised for development by Scottish accountancy degree providers.

When asked, all but two respondents identified at least one skill they would like to develop better. A wide range of skills were identified in relation to this, including Excel,

networking and digital literacy, but interpersonal and communication skills were the most commonly identified (n=6), in particular presentation skills. Only one respondent identified an intellectual skill, in the form of critical thinking. This was interesting as despite interviewees identifying interpersonal and communication skills as being the most commonly developed skills, they also wanted to develop these further. This again indicates a high prioritisation for the development on interpersonal and communication skills. An illustration of an interviewee who first identified communication skills as the key skills currently developed but also as the skills they would like to better develop is as follows:

Interviewer: which ones [non-technical skills] do you try and develop on your course?

Interviewee: Well, I think we do start from a foundational point of view that accounting is all about communication. And so communication runs through everything that we do, verbal and written. So given the importance of that we do try and look for opportunities to assess both, not just written communication.

...Interviewer: are there any skills you would like to develop better?

Interviewee: That's a difficult question. I suppose going back to the fundamental skill of communication is probably the one that we would want to continue to work on as much as possible. (N4)

Communication skills have prominently featured in worldwide accounting education research (*inter alia* Morgan, 1997; Arquero et al., 2001; Hassall et al., 2003; Wells, 2009; Gray, 2010; Crawford et al, 2011) and have been identified as key skills that accountancy firms are looking for when recruiting trainees (Arquero et al., 2001; Gammie et al, 2004). Both the questionnaire and interview data indicated that accounting degree providers have responded to this research on communication skills. The questionnaire results indicated a higher focus by accountancy degree providers on interpersonal and communication skills,

with all skills in this category receiving a higher rating by accountancy graduates in comparison to their non-accounting peers. The interview responses, as discussed above, indicated accounting degree holders hold a common belief on the importance of interpersonal and communication skills. However, if this belief is detrimental to the development of intellectual skills, a concerning position for accountancy degree providers becomes apparent, particularly if non-accounting graduates are developing better intellectual skills which results in them being preferred for coveted accountancy positions and better prepared for a career as a professional accountant by accounting recruiters.

To further understand the development of intellectual skills in accountancy degrees, follow up questions were posed to interviewees. First, consideration was given to whether intellectual skills can be taught, a concept questioned by Kent St. Pierre and Rebele (2014) who suggest intellectual skills may be a function of inherent or background factors which cannot be changed by teaching. Interviewees on the whole disagreed with this, identifying that they believed intellectual skills could be taught, developed or encouraged. This corroborated the results of the questionnaire, where all mean values for intellectual skills development exceeded the mid-point scale, indicating graduates believed their university education had developed intellectual skills. However, some interviewees did identify limitations in teaching these intellectual skills. Interviewee N4 identified they thought critical analysis could be taught, reasoning improved and logical and analytical thinking developed. However, queried capacity for inquiry as a *little bit different* in that you *can't teach capacity*. However, when self-questioning if you can you expand capacity, concluded *I suppose that's an individual thing. But, yeah, I think you can demonstrate the importance and the significance of enquiry*. Similarly, N2 identified they didn't think you could teach intellectual skills but *could point them [students] in the right direction* and identified that by

having different assessment types and processes I think you can encourage students to use them and develop them.

Previous research has identified the importance of integrating intellectual skills into accounting modules, with frameworks provided by Kimmel (1995) and Duron, Limback and Waugh (2006). Interviewees appeared in agreement that an instructional approach where intellectual skills are integrated within other modules, rather than taught in standalone modules, was the best way to teach intellectual skills. One interview summed this up as:

I think it has to be absolutely embedded in everything that we do. I think it's one of these things that is difficult to teach. It's one of these things that is not something you could easily sit down on a single course or module and say "alright, in this space we're going to teach you critical thinking." It's more of an existence, a way of life, of doing things. If you build that expectation into everything that happens then it's much more likely to embed. (N10)

Once established that intellectual skills could be taught, developed or enhanced, consideration was given to if and how this was undertaken within Scottish accountancy degrees. Despite a number of interviewees not identifying intellectual skills, when first asked which skills they developed, further probing resulted in all interviewees identifying these were developed on their course. Examples provided as to how this was done, included the dissertation and in particular 4th year modules some of which were distinctly non-technical in nature. Interviewee N5 illustrated the development of critical analysis in that they *challenge ideologies* in 4th year where they have a *big course that looks at the whole range of different ideological positions in accounting, and really challenges the role of accountants in society and rethinks what accountant could be as well.* Interviewee N11 also provided an example of an accounting in everyday life course where which elements *where there's no technical*

content whatsoever but had much more research orientated, looking at accounting in a much wider context, social context, cultural context. Identifying this is where you can do that [develop intellectual skills] stuff.

With a general agreement that intellectual skills could be enhanced at university and with all respondents providing examples of how their course developed these, the results of the questionnaire were shared with academics and opinions sought on why accounting graduates rated their development of intellectual skills significantly lower. The initial reactions were mixed, some surprised, such as N6 who noted *It's surprising because I would have thought accountants would be prouder of it*, some clearly unsurprised; albeit reluctantly at times, such as N4 who commented *I'm not surprised by that, I suppose* and N2 who agreed they could *understand why. But in some ways I am disappointed.*

Elaborating on their initial reaction, all but one respondent discussed the detrimental effect of teaching technical material. This is consistent with previous worldwide research (Zaid and Abraham, 1994; Morgan, 1997; Albrecht and Sack, 2000; Gray, et al., 2001; Kavanagh and Drennan, 2008; Wilson, 2011, Howcraft, 2017) and interviewees indicated this is a continuing problem:

Yeah I mean I've seen a lot of criticism of students going out that are not analytical, they're not critical, absolutely. And I think probably because of our syllabus we are teaching them (N7)

Probably because we end up doing perhaps too much of the actual technical side of things. So instead of getting into problem solving, critical analysis that we will teach bank recs or consolidations. So we will do "this is what the standard says, this is what you need to do to meet the standard." (N3)

If you are going to fill your syllabus up with a lot of the technical accounting material there is a lot that goes through “go and prepare a set of consolidated accounts” or whatever. There’s a lot of that, and not very much of are you thinking logically and analytically? Okay, you might be. Capacity for enquiry? No. Effectively reasoning? No. Critical analysis? No. (N2)

As a result of such a high technical content, a number of interviewees identified lack of space as an impediment to the development of non-technical skills. This is illustrated by the following responses to a question regarding what barriers are faced in regards to non-technical skill development. Interviewee N3 and N10 respectively summarised this as *Space, yes, I think it probably is space and space is always a problem.* N11 expanded this further in *I suppose the space to find a place for them within the curriculum and finding innovative ways to bring them into what we already do.*

This lack of space in accounting degrees means accounting degree providers have to make course content decisions about which technical and non-technical skills to prioritise. The aforementioned responses indicate a high priority for technical material therefore consideration was given to understanding what pressures are driving the beliefs and practices to include high levels of technical course content despite this being identified as detracting from intellectual skills development. González and Hassall (2009) identified professional accreditation as a normative pressure impacting undergraduate accountancy education and this appeared to be the driving force of a high technical content, as previously suggested by Wilson (2011). All degree providers noted they held multiple accreditation from different professional bodies²⁷, with no providers currently looking to decrease

²⁷ This included exemptions for ICAS, ICAEW, ACCA, CIMA, Chartered Accountants Ireland, Association of International Accounts and the Chartered Institute of Public Finance and Accountancy. All programmes have at least two of these, several with all or almost all of these.

exemptions/accreditations but some looking to increase these. The most common reason given for the importance placed on accreditation was student recruitment, with N1 identifying *'that's what the students look for'* and N8 confirming this in that *'If we didn't have accreditation I don't think we would have any students, frankly'*. N10 shared this view and expanded as follows:

From a management perspective the thing that we need is students. The students pay our bills, they pay our salaries. We need to ensure that we can get students into the programme. Having the maximum available accreditation is almost a baseline requirement in order to achieve that. If we don't compete with other institutions in terms of the accreditation that we can give they just go elsewhere. (N10)

The normative pressure of accreditation therefore appeared to be a key source of legitimacy for Scottish accountancy degree providers. In addition, evidence could be seen of Friedland and Alford's (1991) observation that legitimate organisations may have inefficiencies but despite this perform well as they are better at getting resources from those who perceive them to be legitimate. Applying this to Scottish accountancy degree providers, many interviewees believed accreditation to have a negative impact (or inefficiency) on the education they provided but reluctantly admitted this would not change due to accreditation serving as a key marketing tool, which allowed resources (in terms of student fee income) to be gained. Interviewee N9 noted they were *'not convinced about accreditation'* but when asked if they would maintain accreditation identified that *'economically there's no way we're going to [lose it]. No chance.'* This view was also shared by interviewee N5 as follows:

I've been here since 1999, sixteen years, forever when you realise, and I have heard people say we're restricted by accreditation. There's really never been a challenge to that in terms of we shouldn't have it. It might have been mentioned in passing, but I think the possibility of changing it is very remote, actually. That

it's important for us and it's important that we have a range of accreditation bodies as well. So I think that's the key, that there's a range of accreditation (N5)

However, the legitimacy gained from accreditation may be fuelled by an information gap. If perspective students are focused on accreditation due to the belief it will make them more employable, an information gap may exist as employers, particularly large employers, are more interested in the non-technical skills of applicants than their level of exemptions. If this information gap is closed, accreditation could actually negatively influence legitimacy if it detracts from the intellectual skills development sought by employers (Arquero et al., 2001; Gray et al., 2001; ACCA, 2008; Kavanagh and Drennan, 2008; Crawford et al., 2011). The impact of accreditation on the development of non-technical skills was therefore explored further with interviewees.

When discussing the questionnaire results and why non-accounting graduates had perceived their development of intellectual skills to be more advanced than the accounting graduates, the majority of interviewees reflected the concern raised by Wilson (2011) that a high level of technical content, driven by accreditation, can result in competence being developed at the expense of capability. The interviews also revealed a common practice whereby intellectual skills were often not really taught until well into year 3 or year 4 of accountancy degrees due to the technical requirements of accreditation. This may be in contrast to other degrees which are not restricted by such accreditation requirements and be able to develop these from an earlier stage as illustrated by the following quotes:

... we do it in Honours year, we do a lot of critical stuff and reasoning and stuff like that in Honours year that I think through the degree up to that point there's not huge amounts of it, much more factual. So I think maybe non-relevant degrees will do that sooner. (N7)

They maybe learn that earlier on. They may have had more chance to criticise. We don't see it in first and second year. You're not really criticising the notion of accounting or bookkeeping or high value assets or share price models, the type of stuff that we teach. In fourth year it's sort of like an add-on, "by the way social environmental accounting thinks that the whole basis of financial accounting is flawed and that companies don't cost the environmental damage they do." But that's only in fourth year. By then students have spent three years learning how to produce sets of accounts. And then depending on the options they pick they're doing a little bit about how to deconstruct all that... I mean, if we didn't have accreditation we'd probably do more of that in the earlier years because we'd have more time. When you're doing accreditation it is tough, you've got to map everything across. And you don't really have many contact hours left over in Financial Accounting 1, or Taxation or something. You literally have to squeeze all the material into those sessions. It's not easy. So there isn't much room for that sort of stuff. (N8)

I think it's probably fair enough that when we spend the best part of three years focusing on technical education and then the real academic and critical challenges come toward the end of their degree they probably understand at the end of the degree that there are lots of other things that they could have been doing throughout their degree that they might have enjoyed more and might have got more out of if they hadn't had to do all the technical stuff. (N10)

Limiting the development of intellectual skills in earlier years not only puts accounting graduates at a potential disadvantage when competing for accountancy positions but may have further implications going forward. Currently, the majority of graduates in Scotland undertake 4 years of study at university which was the year many academics identified as a key space for intellectual skills development. Whilst not specifically asked, three interviewees identified that they expect Scottish degrees to be reduced to three years in the future, which would align the length of a Scottish degree to that of an English degree.

Shortening of a Scottish degree could pose a further challenge to the intellectual skills development within Scottish accountancy degrees. A challenge to which accountancy degrees need to be prepared for to ensure their future.

7.0 Conclusion and Implications

Big 4 accountancy firms cite no preference for accounting graduates when recruiting for trainee positions. Firms instead look at general ability and the skills possessed by applicants with scant regard for the subject matter studied. Accounting degrees have faced continuing criticism for their lack of development of non-technical skills and this research offers a possible explanation for why accounting graduates are not preferred by Big 4 accountancy firms.

Both the questionnaire and the subsequent interviews revealed that intellectual skills could and were being developed by accountancy degree providers. However, the normative pressure of accreditation creates a capacity problem restricting the input into accountancy degrees in terms of non-technical skill development. The perception of graduates indicates this is actually being felt by those with an accounting degree who perceive they have weaker development of intellectual skills compared to those with a non-accounting degree. The normative pressure of accreditation on content decisions is identified as being driven by a belief that this is what prospective students want and appears to be a perceived basis of securing institutional legitimacy for vocationally relevant undergraduate accountancy degree programmes. These findings indicate that the economic goals of universities appear to preside over the more traditional education goals of empowering students and unveiling human potential, evidencing the global trend of Universities becoming increasingly

commercially orientated in their goals (Weisbrod, 1998) and the change in higher education from a social institution, which cultivates citizenship and forms individual character, to higher education as an industry with economic goals identified for US universities (Gumport, 2000).

In addition to the potential broad implications for society, if this commercial pressure results in the failure to develop strong intellectual skills, the implications could be far reaching in terms of accounting graduates career capital. Intellectual skills are identified as key underpinning skills to desired attributes of a professional accountant, such as professional scepticism, and are also identified as imperative for successful career in the dynamic environment in which they will work. The result of the questionnaire indicated, from the perception of graduates, that accounting graduates perceived their development of intellectual skills at university, such as thinking logically and analytically and critical thinking, significantly lower than non-accounting graduates. Corroborating this finding, accounting academics identified they were '*not surprised*' and could '*understand why*' accounting graduates perceived this lower development due to the high level of technical content on accountancy degrees compared to non-accounting degrees. If other degrees are better developing these skills, as indicated by the results, undertaking an accounting degree could result in accounting graduates being at a relative disadvantage, in terms of career capital, for a successful career as a professional accountant. In turn, this could threaten the legitimacy of accounting degrees going forward.

In satisfying this pressure and maintaining accreditation, accountancy degree providers have to make prioritisation decisions in terms of which non-technical skills to develop in the remaining curriculum space. The results indicate Scottish accountancy degree

providers are aligned in their beliefs and practices relating to the importance of developing interpersonal and communication skills. Whilst these skills are undeniably desirable skills for accounting graduates to have, accounting educators need to consider the balance between interpersonal and communication skills and the development of intellectual skills. A decision which could become more difficult if the Scottish degree is reduced to 3 years as suggested by some interviewees. With the majority of interviewees identifying a practice whereby intellectual skills are not really taught until later year 3 year 4, the reduction of the degree to three years could have far reaching consequences for the development of intellectual skills on accountancy degrees going forward.

Whilst the Scottish location of this study is relatively unique in that accounting employers can choose to recruit other graduates, the development of non-technical skills within the capacity constraints of accreditation is a worldwide issue. If intellectual skills within accountancy degrees are insufficiently prioritised the worldwide legitimacy of accounting degrees may be threatened through the failure to satisfy the education beliefs of higher education. In turn, if these intellectual skills are not subsequently developed by accountants outside of the university environment, the legitimacy of the accounting profession could be threatened as intellectual skills are vital for the dynamic socio-technical environment in which professional accountants now operate.

7.1 Limitations and Further Research

The questionnaire is based on the perception of graduates who were mid-way through their Big 4 ICAS training contract. Perception, as a measure of skill development, is subject to

over or under estimation by participants and caution must be exercised to ensure the findings are considered within this light. Indeed, three interviewees queried the impact of perception, however two of these subsequently went on to discuss the negative impact of technical content on the development of intellectual skills. The other respondent who maintained the differences in ratings were due to perception rather than reality posited that accounting graduates had developed their intellectual skills more than they perceived (N5 above). Interestingly, this same interviewee was the only interviewee who identified an intellectual skill first when asked which skills they developed (discussed above).

In recognition of the limitations posed by reporting perceptions, steps were taken to triangulate the findings through interviews with academics. However, further research could triangulate this further by exploring at the opinion of different stakeholders, such as employers. In addition, research to identify if there is any difference in the self-efficacy of the two groups could provide an interesting insight.

The questionnaire sample was restricted to Big 4 trainees completing an ICAS training contract. The response rate of 18.15% was slightly disappointing and whilst non-bias tests were performed, the generalisability of findings must be acknowledged. Further research to expand the sample to both trainees outside the Big 4 firms, trainees from other professional bodies and Big 4 trainees from other year groups would be beneficial in extending the insights gained from this study.

It must also be acknowledged that the sample is limited to those who have been successfully selected by a Big 4 firm and will therefore have demonstrated a level of skill development that the recruiting firms are assessing as part of their selection process. Whilst this makes the findings potentially more notable as the identified differences remain even

after the Big 4 selection techniques have been applied, further research to extend the sample to those who have not secured a Big 4 training contract would further extend the insights gained from this study.

Finally, further insights could also be gained through interviewing academics in other countries and comparing this to the results of the Scottish case study. In particular, English academics who already operate a three year degree structure may be of relevance.

Appendix 1: QAA and IFAC skill Comparison

Non-Technical Skill Required by QAA Framework for all Degrees	IFAC skill
an ability to deploy accurately established techniques of analysis and enquiry within a discipline	capacity for inquiry perform critical analysis locate, obtain, organise and understand information from human, print and electronic sources listen and read effectively, including a sensitivity to cultural and language differences
to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of a discipline	identify and solve unstructured problems which may be in an unfamiliar setting effectively reason
to describe and comment upon particular aspects of current research, or equivalent scholarship, in the discipline	capacity for research
an appreciation of the uncertainty, ambiguity and limits of knowledge	capacity for research
the ability to manage their own learning, and to make use of scholarly reviews and primary sources	self-learn
apply the methods and techniques that they have learned to review, consolidate, extend and apply their knowledge and understanding, and to initiate and carry out projects	project management

critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution - or identify a range of solutions - to a problem	identify and solve unstructured problems which may be in an unfamiliar setting perform critical analysis
communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.	present, discuss, report and defend views effectively through formal, informal, written and spoken communication
the exercise of initiative and personal responsibility	use initiative self-manage
decision-making in complex and unpredictable contexts	identify and solve unstructured problems which may be in an unfamiliar setting decision-making
the learning ability needed to undertake appropriate further training of professional or equivalent nature.	self-learn
analytical techniques	think logically and analytically
problem-solving skills	identify and solve unstructured problems which may be in an unfamiliar setting

Appendix 2: Comparison of QAA skills required for Accounting Degrees with IFAC required skills

Non-Technical Skills required by QAA guidance specifically for Accounting Degrees	IFAC skill
the capacity for the critical evaluation of arguments and evidence	perform critical analysis
the ability to analyse and draw reasoned conclusions concerning structured and, to a more limited extent, unstructured problems from a given set of data and from data which must be acquired by the student	think logically and analytically identify and solve unstructured problems which may be in an unfamiliar setting effectively reason listen and read effectively, including a sensitivity to cultural and language differences
the ability to locate, extract and analyse data from multiple sources, including the acknowledgement and referencing of sources	locate, obtain, organise and understand information from human, print and electronic sources Capacity for Inquiry Capacity for research
capacities for independent and self-managed learning	self-learn self-manage
numeracy skills, including the ability to manipulate financial and other numerical data and to appreciate statistical concepts at an appropriate level	

skills in the use of communications and information technology in acquiring, analysing and communicating information	
communication skills including the ability to present quantitative and qualitative information, together with analysis, argument and commentary, in a form appropriate to the intended audience	present, discuss, report and defend views effectively though formal, informal, written and spoken communication
an ability to work in groups, and other interpersonal skills, including oral as well as written presentation skills.	work in teams present, discuss, report and defend views effectively though formal, informal, written and spoken communication

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