



Twenty-first-century competencies and capabilities for financial accounting students



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Dates:

Received: 06 Feb. 2024
 Accepted: 30 May 2024
 Published: 08 July 2024

How to cite this article:

Van den Berg, E. &
 Rothmann, S., 2024,
 'Twenty-first-century
 competencies and
 capabilities for financial
 accounting students', *South
 African Journal of Economic
 and Management Sciences*
 27(1), a5535. [https://doi.org/
 10.4102/sajems.v27i1.5535](https://doi.org/10.4102/sajems.v27i1.5535)

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Background: The financial accounting profession faces several challenges in the 21st century. Research is needed to prepare financial accountants for these challenges.

Aim: This study aimed to determine which 21st-century competencies were essential for financial accounting students in South Africa from the perspectives of students, their educators and professionals and to investigate the capabilities of these three stakeholder groups.

Setting: Stakeholders in financial accounting (students, their educators and professionals) across institutions and organisations in South Africa.

Methods: A quantitative method and cross-sectional survey were used. Financial accounting students ($N = 112$), lecturers ($N = 12$) and professionals ($N = 42$) completed the *21st Century Universal Competencies Questionnaire* and the *Capability Set for Work Questionnaire*.

Results: The findings showed that thinking and learning to learn were the most critical 21st-century competencies for the financial accounting profession. Stakeholders differed regarding the second-highest ranked competencies: For professionals, it was working skills and entrepreneurship; for lecturers, it was information and communication technology and for students, it was self-care and managing everyday life. Cultural competencies and building a sustainable future were ranked lowest in all three stakeholder groups.

Conclusion: Similarities and differences exist between stakeholder views of the importance of specific 21st-century competencies for financial accountancy. Financial accounting professionals and lecturers showed high capabilities, except for involvement in decision-making and earning a good income for lecturers.

Contribution: This study offered a new perspective on the 21st-century competencies and capabilities as perceived by different stakeholders.

Keywords: capability approach; financial accounting; student; competencies; capabilities, functioning; South Africa.

Introduction

The accounting profession is greatly affected by new technologies evident in the Fourth Industrial Revolution that can automate work tasks, reduce human error and enhance the productivity of professional accountants (Chukwuani 2022; Espahbodi 2020; Radácsi et al. 2022). Specific challenges include ensuring data security, complying with global regulatory requirements, managing ethical dilemmas, integrating big data analytics, fostering continuous learning and maintaining relevance as automation and artificial intelligence increase. To seize opportunities, a person's competencies and capabilities must match what is required for the 21st-century workforce (Jarosz, Soltysik & Zakrzewska 2020; Lonka 2018; Maisiri, Darwish & Van Dyk 2019; Stachová et al. 2019). Unfortunately, this literature does not define the competency changes and capability development required for accounting (Jarosz et al. 2020).

In accounting research, scientists and practitioners use the terms 'skills', 'competences', 'competencies' and 'capabilities' as alternative terms to indicate individuals' abilities needed to achieve success (Garcia-Calvo, Garzón-Barragán & Reis 2022). A demonstrated competency is a measurable act of a person who learns through repetition how to use his or her cognitive ability,

skills, knowledge, attributes, motives and values to achieve a specific goal according to set performance standards (Lozano et al. 2012; Salman, Ganie & Saleem 2020). Competency frameworks are products of technical knowledge interests currently in external market demand and are required to solve a specific problem. Lozano et al. (2012) recommend supplementing a competency framework with the capability approach (CA) for a broader perspective on human development to counter this deficiency.

The favourable proposition to incorporate the CA is embedded in investigating the interaction between specific ability requirements for individuals and their perceived value, enablement and achievement (Van der Klink et al. 2016). Capable individuals have the freedom to decide which competencies are important to them (Sen 2001). If their environment allows them opportunities to develop these competencies, they start to 'be' and 'do' them, which equates to functioning in the CA (Sen 2001). Increased and effective functioning results in achievement, which implies that individuals can successfully apply the competency (Walker 2022). With the CA, it is possible to pinpoint the overarching reason for the difference between valued aspects and the lack of capability attainment by looking at available development opportunities and their achievement. If a person is enabled but fails to achieve, contextual factors in his or her social and environmental surroundings might hinder performance (Walker 2022). External environments, new technologies and entities mandate required competencies, but capabilities are determined by whether the individual deems the competency essential (Espahbodi 2020; Lozano et al. 2012; Walker 2022).

For a comprehensive view of competencies and capabilities, inputs from different stakeholders in the accounting profession are needed. Stakeholders include accounting students (who will be part of the future workforce), professionals (the current workforce) and lecturers (who shape education and actively participate in the workforce). Both Asonitou and Hassall (2019) and Oliver et al. (2011) confirm the importance of including these three stakeholders in future recommendations. Concerning the involvement of lecturers, Walker (2022) emphasises the critical role of higher education in reducing challenges and creating opportunities for students to grow capabilities and attain learning outcomes.

Most of the literature regarding competencies has focused on chartered, management or general accounting, neglecting the stream of financial accounting (Barac et al. 2021; Keevy & Mare 2018). It is unclear that competencies and capabilities are crucial for and valued by stakeholders of the profession to prepare for and function adequately in the changing 21st-century workforce. Therefore, this study aimed to investigate differences between stakeholders' values of competency requirements for the profession and their capability enablement and achievement in relation to their role. Furthermore, this study aimed to determine which competencies and capabilities higher education ought to include in the financial accounting curriculum to align

educational practices with current 21st-century workforce demands.

Competency framework

In the Fourth Industrial Revolution, pertinent individual competencies are not clearly defined for accounting (Jarosz et al. 2020). However, the shift to multidisciplinary teams, the ability to navigate the integration between humans and machines and the management of an instant yet colossal amount of available information is not merely predicted but gradually advancing into the workforce (Espahbodi 2020; Jarosz et al. 2020; Mah'd & Mardini 2020; Prifti et al. 2017). Over the years, each revolution has been characterised by different competency requirements because of jobs becoming redundant and new jobs surfacing (Benešová & Tupa 2017), which validates the continuous research efforts into competencies in general (Jarosz et al. 2020). This is apparent in recent worldwide attention focused on the competencies required for accounting students or graduates (Berry & Routon 2020; Bressler & Pence 2019; Dolce et al. 2020; Kwarteng & Mensah 2022; Oliver et al. 2011; Parrado-Martínez & Sánchez-Andújar 2020).

On the one hand, according to Subačienė et al. (2022), findings suggest that classical accounting competencies and financial acumen are the most important in the profession and that these will further enable graduates to understand and evaluate the practicality of accounting information (Daff 2021). On the other hand, accounting professionals with many years of work experience attach greater importance to general competencies (learning ability and independence) in addition to financial acumen than their less experienced colleagues (Subačienė et al. 2022). Professional accounting boards concur that an optimal balance between technical and general competencies is to be pursued and that different combinations of skill sets will be required for different work levels (Tsiligiris & Bowyer 2021). Technical competencies are easily acquired through training, tertiary education or practical experience, but general competencies are not straightforward. The required competency framework should be appropriate for financial accountancy professionals and have the potential to offer students an opportunity, through attaining these competencies, to develop their social identity to fit the professional context that they value as important (Herbert et al. 2021).

Lonka's (2018) integrative competency framework, which prepares individuals to navigate the complexities of the 21st century, was used in this study. Lonka's framework emphasises adaptability, interdisciplinary knowledge and the capacity to contribute positively to society. The framework matches the above specifications of Herbert et al. (2021) and the definitional framework of Salman et al. (2020) required for this study. Lonka (2018), endorsed by the international technological company Microsoft (2018), provides a set of seven universal competencies intricately designed to develop independent thinkers and multidisciplinary problem solvers equipped to succeed in the 21st century (Schwinger et al. 2022; Wang, Lavonen & Tirri 2018).

TABLE 1: Seven work values identified by Lonka (2018:12).

Competency	Value
A	Thinking and learning to learn
B	Cultural competence, interaction and self-expression
C	Self-care and managing everyday life
D	Multiliteracy
E	Information and communication technology
F	Working life skills and entrepreneurship
G	Participating, influencing and building a sustainable future

The general competencies available across disciplines compiled by the World Economic Forum (WEF 2020, 2022) are discernible in Lonka's (2018) framework. This framework, soundly developed on educational psychological principles and decades of research, is deemed appropriate for this study and consists of seven principal competencies (see Table 1).

Bartley (2023) argued that students need five broad competency categories, namely, technological skills (competency E), critical thinking (competency A), communication skills (competencies B, D and E), adaptability (competency G) and professionalism (competencies C, F and G). Technological skills are needed to ensure technical proficiency (Getahun & Mersha 2020). Accounting roles require the ability to analyse complex information critically and make informed decisions to identify problems and develop effective solutions. Financial accountants must have strong written and verbal communication skills (competency D) to effectively convey complex financial information to stakeholders, which fosters trust and understanding. Keeping up with the rapidly changing accounting profession requires financial accountants to be flexible and open to learning new skills and technologies (competencies A and E). Financial accountants must maintain high ethical standards, integrity and professionalism to gain the trust of clients, colleagues and the public (competency G).

According to Atanasovski, Trpeska and Lazarevska (2018), accounting students are more likely than accounting practitioners to value personal skills such as time management, good presentation skills, self-confidence, motivation and self-promotion (competency B). Compared to students, practitioners valued the following competencies more: oral communication, ethical attitudes, credibility and commitment to lifelong learning. Therefore, there is a disconnect between the skills stressed in education and those valued in accounting. According to Ismail, Ahmad and Ahmi (2020), accounting graduates are expected to possess the following competencies: information technology competency, personal and interpersonal competencies, accounting software proficiency, teamwork, communication and optimism (competencies D and F).

A study by Low et al. (2016) emphasised the importance of non-technical skills, such as communication, teamwork, problem-solving and emotional intelligence, for accounting graduates (competency B). It is recommended that universities emphasise these skills in addition to their technical abilities to better prepare students for the workplace. In their study, O'Shea,

Bowyer and Ghalayini (2022) identified a discrepancy between employers' expectations of soft skills and students' belief that technical skills and grades are the most important factors for employment. They concluded that soft skills (competencies B and G) are more critical for post-degree employability than technical skills. These findings have significant implications for accounting graduates' job market readiness. A study by Schwinger et al. (2020) confirmed the importance of students' competency in self-care and managing everyday life (competency C). Learning environments that foster academic motivation and decrease concerns about failure are needed to reduce students' self-handicapping tendencies. The most powerful predictors of self-handicapping were emotional instability, conscientiousness and fear of failure.

Capability

The CA provides a theoretical framework to investigate human development and well-being amid societal and technological change (Sen 2001). The CA is appropriate for research in education and work environments (Robeyns 2017) and adjudicates freedom as a core determinant of a life worthy of living (Sen 2011). Capabilities and freedoms coexist with each other; capabilities are a display of the wishes and wants of an individual (Sen 2001). According to Sen (2001), when individuals are being and doing their wishes and wants, it is called functioning. Functioning is actively pursuing these valued capabilities through development opportunities enabling the individual to achieve the valued capability (Walker 2022). Therefore, considering a person's capability and functioning is crucial for evaluating students' success in higher education (Walker 2022).

The idea of a list paved the way for further research to investigate how certain environments could require the combination of specific valued capabilities that enabled freedom and optimal functioning. Nussbaum (2007) compiled a list of 10 capabilities, including:

[L]ife, bodily health, bodily integrity, development and expression of senses, emotional health, practical reason, affiliation (both personal and political), relationships with other species and nature, play, control over one's environment (material and social). (p. 21)

Walker (2022:1007) proposed a capability set appropriate for the functioning of a student in higher education within the South African context comprising eight broad and vague capabilities, namely 'epistemic contribution, ubuntu, practical reason, navigation, future work or study, narrative, inclusion and participation, and emotional balance'. However, a valid and reliable instrument for measuring these student capabilities that is suitable for employees has not yet been developed.

Considering that students are educated to be capable of adapting to the world of work (Sterling 2017) and that both lecturers and professionals are working, it sufficiently argues for using a capability set already designed to incorporate essential aspects that translate to capabilities in the workplace

TABLE 2: Seven work values identified by Abma et al. (2016).

Number	Value
1	Use of knowledge and skills (UKS)
2	Development of new knowledge and skills (DKS)
3	Involvement in important decisions (IID)
4	Building and maintaining meaningful contacts (MRW)
5	Setting own goals (SOG)
6	Earning a good income (EGI)
7	Contributing to something valuable (CSV)

Source: Adapted from: Abma, F.I., Brouwer, S., De Vries, H.J., Arends, I., Robroek, S.J.W., Cuijpers, M.P.J. et al., 2016, 'The capability set for work: Development and validation of a new questionnaire', *Scandinavian Journal of Work, Environment & Health* 42(1), 34–42. <https://doi.org/10.5271/sjweh.3532>

that can also be adapted to fit the context of an educational environment. Abma et al. (2016) developed a measuring instrument based on capability research performed in the work context by Van der Klink et al. (2016). To attain capability, individuals must consider seven important work values, have sufficient opportunities to realise these values and be able to achieve them (see Table 2).

Various studies have shown that these seven capabilities are associated with individuals' functioning in organisations, including the flourishing of employees (De Wet & Rothmann 2022b), meaningful work and low intentions to leave (Murangi, Rothmann & Nel 2022) and decent work (Ragadu & Rothmann 2023).

Method

Research design

A quantitative research method and cross-sectional design were used. The design made it possible to perform comparisons and analyse differences between groups (Maree 2016; Struwig & Stead 2013).

Participants

The participants comprised three stakeholder groups in the financial accounting discipline, namely: (1) second- and third-year students, (2) lecturers educating these students at the same academic institution and (3) working professionals in proximity to the other stakeholders. These professionals differed in their ability to include practitioners and managers in the accounting profession.

Four universities were invited to participate in the study, and three agreed to participate, but only students and lecturers from two universities participated. These two academic institutions had campuses based in three provinces of South Africa. Out of these two institutions, a total of 209 students participated, but only 112 provided useful data, representing less than 10% of the student population. A total of 12 lecturers participated; even though this seems very rare, it fully represents lecturers in the financial accounting curriculum pertaining to one university. With respect to the proximity of the three participating institutions, a total of 348 businesses in four different provinces in South Africa were contacted for participation.

Measuring Instruments

The *21st-Century Universal Competency Questionnaire* was used to measure the importance of seven competencies in the financial accounting profession. These seven competencies, developed by Lonka (2018), are multidimensional and multidisciplinary skill sets required to adapt to and succeed in a changing world of work. A principal competency has three to four subconstructs of measurement; for example, the principal competency of information and communication technology is further subdivided into: (1) inquiry based and creative studying, (2) practical skills and programming, (3) responsibility and safety in using technology and (4) social interaction and networking in the digital world. Each principal competency and contributing subfactor was assigned a letter of the alphabet ranging from A to G, with an example item being 'D: Multiliteracy: communication; multimedia and communication; contextual skills'. Participants were instructed to match items with a Likert-type corresponding number to indicate the importance of each competency for financial accountancy, with the most important competency being '1' and the least important competency '7'. An ordinal scale was used to measure the ranking order of each participant and then combined to reach the stakeholder group rank. According to Gadermann, Guhn and Zumbo (2012), ordinal reliability for Likert-type and ordinal item response data can be measured if the same ordinal scale is used with no missing data. Because participants could only assign one corresponding number per competency and all rankings had to be completed before the participant could continue to the next part of the survey, the requirement for reliability of the ordinal scale was reached.

The *Capability Set for Work Questionnaire* (CSWQ) (Abma et al. 2016) was used to measure seven capabilities. Each capability consisted of three aspects, namely importance, enablement and achievement. The CSWQ was used for all stakeholder groups to allow comparisons between groups; however, for students, the terms were adapted to fit the context of functioning in a higher education environment. The example items below relate to measuring the capability of setting one's goals through three questions, each measuring one aspect. For professional and lecturer stakeholders, example items included: (1) 'How important is it to you that you can set your own goals in your work?', (2) 'Does your current environment offer enough opportunities to do that?' and (3) 'To what extent do you succeed to actually do that?' Similarly, example items for student stakeholders included: (1) 'How important is it to you that you can set your own goals in your studies?', (2) 'Does your current environment offer enough opportunities to do that?' and (3) 'To what extent do you succeed to actually do that?' The response options ranged from 1 (*not at all*) to 5 (*very much*). The values of each aspect were summarised to form a capability set, which meant that if a person found the capability important (*importance*), felt enabled to implement it (*enablement*) and could successfully implement it (*achievement*), then that person attained the capability. The greater the number of capabilities in a person's capability set is, the greater the predictive outcome of work ability (Gürbüz et al. 2022; Van

Gorp et al. 2018). Barnard et al. (2023) reported the following omega coefficients for the three elements of the CSWQ: 0.80 (importance), 0.80 (enablement) and 0.82 (achievement). Gürbüz et al. (2022) confirmed acceptable convergent validity for the CSWQ as well as predictive validity for importance, enablement and achievement.

Research procedure

The curriculum information of academic institutions in South Africa identified six public universities that offered a BCom Financial Accounting qualification. The random selection of three universities resulted in gatekeeper permission being obtained from two universities. A fourth university was approached and gatekeeper permission was obtained. Ethical procedures positioned by different gatekeeper committees were strict in terms of the communication media utilised. The survey information was distributed electronically to lecturers of accounting and platforms used by students via gatekeepers. One university permitted the researcher to contact a staff member who acted as a mediator and appointed independent helpers. The survey information was distributed to financial accounting students via electronic internal communication media and lecturers teaching these students. The researcher strongly adhered to gatekeeper formalities and appointed an additional independent person to liaise with stakeholders in a final attempt to secure participation through direct marketing on campuses. This research was purely voluntary and neither staff nor students were obliged to participate.

An independent research assistant identified and contacted 348 businesses in four different provinces in South Africa via email or telephone. These businesses either offered financial accounting services or employed financial accountants in a radius of 300 km for each participating university. Thirty-seven businesses consented that the electronic survey be distributed to employees willing to participate voluntarily. The response to emails and progress in data gathering was slow.

The low response rate of all participants might have been affected by COVID-19, which has caused a shift in routines, work, sleep and life in general since 2020. According to Davy et al. (2021), 7.3% of people disengaged from their work or studies during the lockdown in South Africa. This might suggest a low motivation for anything other than needed. In addition, as South Africa is a country large in diameter, proximity and travel to different universities and businesses were limited because of COVID-19 regulations and cost implications. Distributing marketing information in any form other than electronic information was only possible at one university for a limited time.

Data analysis

The statistical program SPSS 27 (IBM Corp 2020) was used to analyse the results. The competencies were ranked on an ordinal scale, with '1' indicating the most important and '7' indicating the least important.

The sequence that Abma et al. (2016) followed to calculate a capability aspect and set was replicated in this study for all stakeholders separately. A summarised score was calculated for the capability aspect that formed part of the set if three criteria were met: (1) the stakeholders viewed the aspect as important; (2) they had opportunities to develop it and (3) they were successful in doing it. These criteria demonstrated effective functioning in sequence. Conversely, inadequate functioning occurred when stakeholders deemed the aspect important but did not have any opportunities to develop or achieve it. A score of 4 to 5 in a range of 1 to 5 for an aspect was considered sufficient to demonstrate effective functioning if true for all three criteria. However, the aspect was excluded from the capability set in two instances that started with the same score of 4 to 5, indicating that the aspect was important. A score of 3 or less indicated: (1) deficient opportunities to develop the aspect in the workplace or university or (2) a shortcoming preventing the stakeholder from achieving it. Another exclusion would occur if the stakeholder valued the importance of the aspect, as well as a multitude of development opportunities, such as 4 to 5; however, the stakeholder still felt incapable of achieving success in the aspect, scored as 3 or less.

Multivariate analysis of variance (MANOVA) was used to determine whether value, enablement or achievement led to a capability set. Using effect sizes for partial eta squared was appropriate to gain insight into how small or large the difference between stakeholder groups was. The small effect is $\eta^2 = 0.01$, the medium effect is $\eta^2 = 0.06$ and the large effect is $\eta^2 \geq 0.14$. Finally, descriptive statistics were used to analyse the demographic variables.

Ethical considerations

Ethical clearance was provided for 1 year and extended for another year by the Economic and Management Sciences Research Ethics Committee (EMS-REC) of North-West University with NWU-00750-20-A4. This extension was required because of additional challenges brought about by the COVID-19 pandemic in South Africa, resulting in poor participation.

Results

Demographic profile of the participants

Thirty-seven businesses agreed to participate, and a total of 52 professionals participated. One participant was excluded because of nationality and nine participants did not fully complete the survey. Finally, 42 professionals' surveys were usable: 13 practitioners, seven managers, 16 practitioners and managers and 6 in other roles, such as director or graduate recruiter and supervisor of The South African Institute of Professional Accountants (SAIPA) trainees' internship programme. The demographic variables related to age and home language per stakeholder group are presented in Table 3.

The participants were stakeholders in financial accountancy and included professionals, lecturers and students. The ages of stakeholders ranged over six decades (born between 1957 and 2003) and three different generations, as indicated by Migliaccio (2018) in financial gerontology: baby boomers (51 to 69 years), Generation X (35 to 50 years) and millennials (18 to 34 years). Millennials had maximum representation and composed the entire student sample (100%), as did professionals (19.0% ≤ 59.5%) and lecturers (8.3% ≤ 83.3%). The baby boomer category was the lowest, represented only by professionals and lecturers, accounting for approximately 11.9% of the stakeholder group. Furthermore, 11 national languages of

South Africa were represented in the sample, with Afrikaans (57.1%) being the most indicated home language and isiNdebele (0.3%) the least. Most stakeholders indicated English as their additional language (75.7%) or second-highest home language (21.7%).

Descriptive statistics of competencies

Stakeholders differed in their rankings of 21st-century competencies most relevant for financial accountancy, as displayed in Table 4. There was stakeholder unison for the most important competency A – Thinking and learning to learn (professional = 57.1, lecturer = 50.0, student = 29.5, rank 1). There was also majority agreement for the least relevant two competencies: B – Cultural competence, interaction and self-expression (professional = 42.9, student = 42.1, rank 7; lecturer = 41.7, rank 6) and G – Participating, influencing and building a sustainable future (lecturer = 50.0, student = 20.5, rank 7; professional = 26.2, rank 6). There was also an alignment on two other competencies, D – Multiliteracy D (rank 3) and E – Information and communication technology (rank 4), between professionals and students.

Descriptive statistics of capabilities

Table 5 shows that the capabilities of financial accounting professionals and lecturers were high, except for involvement in decision-making (41.7%) and earning a good income (50%) for lecturers. All stakeholders strongly valued DKS (professional: 100%, lecturer: 100%, student: 94.6%). Differences became apparent between stakeholders regarding the opportunities available, where both lecturers

TABLE 3: Characteristics of participants.

Demographic	Grouping	Professionals	Lecturers	Students	Stakeholder representation
N	166	25.3	7.2	73.5	-
Age (in years)	19	-	-	1.8	0.6
	20–29	19.0	8.3	98.2	41.8
	30–39	40.5	75.0	-	38.5
	40–49	21.4	-	-	7.1
	50–59	16.7	16.7	-	11.1
	60≤	2.4	-	-	0.8
Home language	English	33.3	16.7	15.2	21.7
	Xitsonga	-	-	2.7	0.9
	Tshivenda	-	-	2.7	0.9
	Setswana	-	-	14.3	4.8
	Sesotho	-	8.3	9.8	6.0
	Sepedi	-	-	5.4	1.8
	isiZulu	2.4	-	11.6	4.7
	isiXhosa	-	-	5.4	1.8
	isiNdebele	-	-	0.9	0.3
	Afrikaans	64.3	75.0	32.1	57.1

Note: Numbers reflect percentages of the total population.

TABLE 4: Comparison of stakeholder differences regarding the importance of competencies for the financial accounting profession.

Stakeholder	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6	Rank 7	Competency description	Rank P	Rank L	Rank S
A1-P	57.1†	14.3	7.1	14.3	4.8	2.4	0.0	A: thinking and learning to learn: inquiry-based learning; learning to learn; learning community.	1	1	1
A2-L	50.0†	25.0	16.7	8.3	0.0	0.0	0.0				
A3-S	29.5†	11.6	16.1	12.5	13.4	5.4	11.6				
B1-P	2.4	4.8	7.1	21.4	11.9	9.5	42.9†	B: cultural competence, interaction and self-expression: cultural encounters; emotional skills; cultural participation.	7	6	7
B2-L	0.0	8.3	8.3	0.0	16.7	41.7†	25.0				
B3-S	4.5	12.5	13.4	14.3	17.0	14.3	24.1†				
C1-P	7.1	14.3	21.4	9.5	28.6†	14.3	4.8	C: self-care and managing everyday life: managing everyday life; being a member of a well-functioning society; safety and security in everyday life.	5	4/6	2
C2-L	8.3	16.7	16.7	25.0†	8.3	25.0†	0.0				
C3-S	20.5	22.3†	13.4	8.9	11.6	16.1	7.1				
D1-P	7.1	16.7	23.8†	9.5	11.9	11.9	19.0	D: multiliteracy: communication; multimedia and communication; contextual skills.	3	5	3
D2-L	0.0	8.3	25.0	8.3	33.3†	8.3	16.7				
D3-S	5.4	9.8	23.2†	16.1	11.6	15.2	18.8				
E1-P	11.9	21.4	14.3	23.8†	9.5	14.3	4.8	E: information and communication technology: inquiry-based and creative studying; practical skills and programming; responsibility and safety in using technology; social interaction and networking in the digital world.	4	1	4
E2-L	25.0†	16.7	16.7	16.7	16.7	0.0	8.3				
E3-S	11.6	16.1	9.8	24.1†	17.9	12.5	8.0				
F1-P	7.1	28.6†	16.7	9.5	11.9	21.4	4.8	F: working life skills and entrepreneurship: readiness for working life; social interaction at work; working life in practice.	2	4	6
F2-L	16.7	25.0	0.0	33.3†	8.3	16.7	0.0				
F3-S	13.4	17.0	16.1	9.8	15.2	18.8†	9.8				
G1-P	7.1	0.0	9.5	11.9	21.4	26.2†	23.8	G: participating, influencing and building a sustainable future: means to influence; structures and rules of society; building the future.	6	7	7
G2-L	0.0	0.0	16.7	8.3	16.7	8.3	50.0†				
G3-S	15.2	10.7	8.0	14.3	13.4	17.9	20.5†				

A, Thinking and learning to learn; B, Cultural competence, interaction and self-expression; C, Self-care and managing everyday life; D, Multiliteracy; E, Information and communication technology; F, Working life skills and entrepreneurship; G, Participating, influencing and building a sustainable future; P, professionals; L, lecturers; S, students.

†, The highest ranking per group per competency (Rank: 1 = high, 7 = low).

TABLE 5: Stakeholders' differences in capability aspects.

Variable	Importance		Opportunity		Achievement		Overall capability	
	Not capable	Capable	Not capable	Capable	Not capable	Capable	Not capable	Capable
1. UKS-P	2.4	97.6	7.1	92.9	16.7	83.3	16.7	83.3
2. UKS-L	0.0	100.0	8.3	91.7	0.0	100.0	8.3	91.7
3. UKS-S	10.7	89.3	44.6	55.4	63.4	36.6	73.2	26.8
4. DKS-P	0.0	100.0	9.5	90.5	16.7	83.3	19.0	81.0
5. DKS-L	0.0	100.0	8.3	91.7	8.3	91.7	8.3	91.7
6. DKS-S	5.4	94.6	34.8	65.2	49.1	50.9	60.7	39.3
7. IID-P	7.1	92.9	9.5	90.5	14.3	85.7	21.4	78.6
8. IID-L	41.7	58.3	50.0	50.0	33.3	66.7	58.3	41.7
9. IID-S	13.4	86.6	43.8	56.3	39.3	60.7	57.1	42.9
10. MRW-P	2.4	97.6	9.5	90.5	14.3	85.7	16.7	83.3
11. MRW-L	25.0	75.0	16.7	83.3	16.7	83.3	25.0	75.0
12. MRW-S	14.3	85.7	34.8	65.2	46.4	53.6	56.3	43.8
13. SOG-P	7.1	92.9	11.9	88.1	21.4	78.6	26.2	73.8
14. SOG-L	8.3	91.7	16.7	83.3	16.7	83.3	25.0	75.0
15. SOG-S	6.3	93.8	22.3	77.7	30.4	69.6	36.6	63.4
16. EGI-P	2.4	97.6	14.3	85.7	21.4	78.6	26.2	73.8
17. EGI-L	0.0	100.0	50.0	50.0	25.0	75.0	50.0	50.0
18. EGI-S	12.5	87.5	50.0	50.0	40.2	59.8	64.3	35.7
19. CSV-P	0.0	100.0	7.1	92.9	9.5	90.5	9.5	90.5
20. CSV-L	0.0	100.0	8.3	91.7	0.0	100.0	8.3	91.7
21. CSV-S	16.1	83.9	52.7	47.3	53.6	46.4	64.3	35.7

P, professionals; L, lecturers; S, students; UKS, using knowledge and skills; DKS, developing your knowledge and skills; IID, being involved in important decisions; MRW, meaningful working relationships with others; SOG, setting of goals; EGI, earning a good income; CSV, creating something valuable.

TABLE 6: Multivariate analysis of variance for the capability set.

Effect	Value	<i>F</i>	Hypothesis <i>df</i>	Error <i>df</i>	<i>p</i>	η^2
Wilks's lambda	0.760	7.901	6.000	322.000	0.000	0.128

Note: statistical significance = $p < 0.01$; effect sizes: small: $\eta^2 = 0.01$, medium: $\eta^2 = 0.06$, large: $\eta^2 \geq 0.14$.

(91.7%) and professionals (90.5%) indicated strong capabilities, while students' capabilities decreased to 65.2%. Achieving DKS capability remained unchanged for lecturers but decreased further for professionals (83.3%) and students (50.9%). More than 50% of accounting students were not capable on six of the capabilities (use of knowledge and skills [UKS], development of new knowledge and skills [DKS], involvement in important decisions [IID], meaningful working relationships with others [MRW], earning a good income [EGI] and contributing to something valuable [CSV]).

Multivariate analysis of variance and analysis of variance

The hypotheses are as follows: There is a difference between the abilities of students and lecturers (H1a), between students and professionals (H1b) and between lecturers and professionals (H1c). There is a difference between the achievements of students and lecturers (H2a), between students and professionals (H2b) and between lecturers and professionals (H2c).

Multivariate analysis of variance is captured in Table 6 and shows a significant effect of the stakeholder group on the combined dependent variable capabilities $F_{(6, 322)} = 7.901, p < 0.001$.

Analysis of each dependent variable in Table 7 showed that the groups differed in terms of enablement $F_{(2, 163)} = 7.77, p < 0.001, \eta^2 = 0.19$ and achievement $F_{(2, 163)} = 7.93, p < 0.001, \eta^2 = 0.19$. Enablement differed significantly between professionals and students ($\Delta\text{mean } 0.69, p < 0.001$), with professionals scoring higher on enablement than students. Lecturers differed significantly from students ($\Delta\text{mean } 0.49, p = 0.031$). Achievement differed significantly between professionals and students ($\Delta\text{mean } 0.66, p < 0.001$), with professionals scoring higher on achievement than students. Lecturers differed statistically significantly from students ($\Delta\text{mean } 0.65, p = 0.003$). There was a significant difference between enablement of student versus lecturer (H1a) and student versus professional (H1b), confirming the hypotheses. Similarly, a significant difference between the achievement of student versus lecturer (H2a) and student versus professional (H2b) was substantiated and accepted. The lack of difference between lecturer versus professional for enablement (H1c) and achievement (H2c) resulted in the rejection of these hypotheses.

Discussion

This study aimed, firstly, to determine the order of priority given to seven 21st-century competencies from financial accounting stakeholders (i.e. students, lecturers and professionals) and secondly, to investigate similarities and differences between the importance, enablement and achievement of work capabilities between stakeholder groups in the South African context.

The research findings underscore the significance of thinking and learning to learn as the foremost 21st-century competency

TABLE 7: Multivariate analysis of differences in capabilities of professionals, lecturers and students.

Variable	<i>F</i>	<i>df</i>	<i>p</i>	η^2	Professionals		Lecturers		Students	
					Mean	SE	Mean	SE	Mean	SE
Role	30.86	2, 163	0.000	0.275	0.81 ^a	0.05	0.74 ^a	0.09	0.41 ^b	0.03

Note: Small effect: $\eta^2 = 0.01$, medium effect: $\eta^2 = 0.06$, large effect: $\eta^2 \geq 0.14$.

SE, standard error.

a, group differs significantly from group where b is indicated.

in the financial accounting profession. However, stakeholders' opinions diverged on the second highest-ranked competencies. Financial accounting professionals prioritised working skills and entrepreneurship, lecturers emphasised information and communication technology and students focused on self-care and managing everyday life. Despite these differences, all stakeholders consistently ranked cultural competencies and building a sustainable future as the least important. Moreover, the study highlights a discrepancy between the value placed on various capabilities and their actual achievement among students, lecturers and professionals. Although professionals and lecturers generally demonstrated high capabilities, involvement in decision-making and earning a good income were notable exceptions for lecturers.

The highest-ranked competency among stakeholders was the importance of thinking and learning to learn, which was also deemed important by accounting professionals as enablement to function in a dynamic 21st-century accountancy profession (Atanasovski et al. 2018; Getahun & Mersha 2020; Subačienė et al. 2022) and to deal with the Fourth Industrial Revolution successfully (Gleason 2018). Being able to gain knowledge, think critically, form arguments and apply these successfully throughout education will enable the student to function as an epistemic contributor (Walker 2022) with the freedom (capability) to use and develop knowledge in a way that he or she values. However, the results showed that students perceived mediocre opportunities to use and develop their knowledge and skills during tertiary education. When they attempted to use and develop their knowledge and skills, they did not perceive themselves as succeeding in being and doing it. According to Schwinger et al. (2022), a student's desire to learn, paired with effective goal-setting capability, protect students from self-sabotaging behaviour that might hinder their performance.

The results showed the importance of thinking and learning for learning competency and confirmed that students could reasonably set their own goals. These capability results showed that 93.8% of the students valued setting their own goals, 77.7% perceived opportunities to develop them and 69.6% successfully achieved setting their own goals. This demonstrates the students' strong desire to learn and their ability to take charge of their own learning journey. Thus, students' ability to set their goals and desire to learn positively affect their performance as this essential combination of capability and competency helps them succeed in their studies (Schwinger et al. 2022).

For professionals, it was working skills and entrepreneurship; for lecturers, it was information and communication

technology and for students, it was self-care and managing everyday life.

In line with the findings of Getahun and Mersha (2020), only lecturers ranked information technology and communication as the second most important competency. However, professionals ranked working skills and entrepreneurship, and students ranked self-care and managing everyday life as the second most important competency. These findings confirm the importance of the context of the stakeholders for judging the competencies needed by financial accountants (Asonitou & Hassall 2019; Oliver et al. 2011).

In contrast to thinking and learning to learn, the competency to participate, influence and build a sustainable future was the lowest ranked. There was no indication that the profession disregarded this competency, especially considering that professionals and lecturers were capable and strongly valued their contribution to creating something significant at work. However, neglecting to include this competency in educational learning outcomes might be to blame for students' capability deficiency in creating something valuable within the institution. Students petitioned for opportunities to participate, belong, contribute and build their own higher educational legacy (Walker 2022). Achieving this capability at university will contribute to sustainable development and the transference of social justice from university to society (Walker 2022). Capable students will likely seek out opportunities to add value and demonstrate ubuntu in society because they acknowledge the relationship between their well-being and that of others (ubuntu), which, according to Walker (2022), is important to them. Therefore, investigating what opportunities will look like to develop value-adding capable students, as well as incorporating the competency to participate, influence and build a sustainable future in the curriculum of a financial accountancy qualification learning outcome in higher education, will be the first step towards helping students achieve this capability.

Stakeholders ranked the competency of cultural interaction and emotional expression as the lowest. According to Nussbaum (2006), students need to exchange ideas demonstrating respect and acknowledge cultural differences between people to transform students into active noble citizens seeking peaceful interaction in a racially diverse country. Likewise, the South African student capability set proposed by Walker (2022) values the competency of cultural interaction and emotional expression, as it is part of various capabilities valued by students in higher education. However, evidence is required to clarify the lesser value given to this competency by stakeholders in financial accountancy to

determine whether it is neglected and the possible impact on addressing 21st-century profession-related problems. The ability to interact with different cultures and express emotions can be fostered through opportunities to cultivate narrative imagination (Nussbaum 2006). Capable financial accounting students who seek opportunities to express themselves emotionally and connect with others culturally in a positive relational way may be more equipped to tackle 21st-century problems (e.g. diversity and inclusion) than those who focus their attention on numerical reasoning proficiency to solve technical accounting problems without acknowledging the challenges that human diversity and relationships bring to the workforce, student life and society (Low et al. 2016).

The capability findings confirmed that all stakeholders valued all capability aspects. The majority (94.6% to 100%) of professionals, lecturers and students strongly valued the development of knowledge and skills. All professionals and lecturers (100%) regarded contributing to creating something valuable as very important, while it was the lowest value for 83.9% of students. Only 58.3% of lecturers valued being involved in decision-making, which was also the lowest value for 92.9% of professionals. The results confirmed significant differences between stakeholder group students and lecturers and between students and professionals regarding the enablement and achievement of capabilities. Although 50% of lecturers believed there were fewer enablement opportunities in higher education for being involved in decision-making and earning a good income, both lecturers and professionals were able and achieved all of their capabilities. In contrast, 52.7% of the students did not perceive opportunities to contribute to creating something valuable, and 53.6% failed to achieve this valued capability. Additionally, 63.4% of the students were not capable to use their knowledge and skills, even though 55.4% perceived development opportunities. The results indicated students' strongest enablement (77.7%) and achievement (69.6%) in setting goals.

Meaningful and positive relationships with others are linked ontologically, which means that, without these relationships, capabilities and competencies cannot develop to full capacity (Lonka 2018; Walker 2022). It stands to reason that capable individuals with meaningful relationships may display increased performance through skilful attainment and application of competencies, that is, greater workability (Gürbüz et al. 2022; Van Gorp et al. 2018). The findings of this study showed that moderately strongly capable professionals and lecturers, unlike students, were unable to acquire this important capability of building and maintaining profound relationships. However, the results highlighted students' inefficiency in successfully pursuing and building significant relationships amid perceived reasonable enablement opportunities. Given that meaningful and positive relationships are linked to and have an impact on all other student capabilities, further investigation is required to understand the reasons for these findings and how a lack of capability affects student performance (De Wet & Rothmann 2022a).

This study had various limitations. Firstly, a quantitative research design was used. A mixed-method research design is recommended for future research as this design would have allowed exploration and in-depth analyses of small stakeholder groups yet fully representative of the population, such as lecturers. Caution should be applied when generalising the results because of the small sample size. Secondly, this study did not consider conversion factors in social and environmental contexts, which, according to Sen (2001), could have constrained stakeholders in functioning and capability development. Future research should focus on exploring conversion factors and measuring their impact on capability development for stakeholders in the financial accounting profession. Thirdly, in concurrence with Abma et al. (2016), exploration is recommended given the low capability sets of students and the impact on their functioning as students.

Recommendations

Tertiary education institutions can use the study results to incorporate crucial competencies in the learning outcomes of the financial accounting curriculum and to design and provide development opportunities for students to achieve capabilities important to them and the profession. Therefore, the alignment of the financial accounting curriculum with the current 21st-century demands should be considered in terms of stakeholders' (students, lecturers and professionals) values, competency requirements and capability enablement and achievement. Specific competencies that should be considered include the adequacy of technical proficiency and soft skills (e.g. problem-solving, communication, teamwork and leadership), professionalism (accountability and integrity in all aspects of the curriculum), a holistic approach and continuous learning and development.

Career services, practical experience, internships, mentorship activities and networking opportunities should be optimised to achieve capability development. Moreover, regular consultation with industry stakeholders should be promoted through advisory boards (consisting of industry experts, alumni and employers) to allow for input on the competencies and capabilities of financial accounting students.

Conclusion

This study found similarities and differences between stakeholder views of the importance of seven specific 21st-century universal competencies for financial accountancy. The competency of thinking and learning to learn was identified as essential for the profession, which necessitates development opportunities that will enable stakeholders to look at information critically while also acquiring different tools for how to learn and value information effectively. Concerning capabilities, students were significantly less enabled and achieved less than other stakeholders. The findings highlighted the importance of focusing more research on student capabilities, which is important for all capability and competency development.

The future world of work in financial accountancy is subject to insurmountable changes brought about by the 21st-century and the Fourth Industrial Revolution. Knowing how to, and being capable of, prepare oneself adequately with the necessary skill set to adapt to and overcome the unavoidable imminent challenges faced by financial accountants becomes crucial. This study fills the gap in the literature pertaining to the financial accounting profession with the viewpoints and capabilities of three stakeholders: students, lecturers and professionals. This study used an established framework to determine which competencies were most important for the profession. Furthermore, we sought to provide a holistic view of human development by measuring seven work capabilities that provided insightful information on aspects of work or studies that stakeholders valued developing and achieving. The results provided a platform for dialogue about competencies and capabilities to explore capabilities affecting performance in competency functioning.

Acknowledgements

The authors would like to acknowledge the language editing of the article by Ms. Hendia Baker.

Competing interests

The authors declare that they have no financial or personal relationship that may have inappropriately influenced them in writing this article.

Authors' contributions

E.v.d.B. collected the data and wrote the article. S.R. assisted with the statistical analysis and editing.

Funding information

The authors received no financial support for the research, authorship and/or publication of this article.

Data availability

The raw data will be viewable upon reasonable request from the corresponding author, S.R.

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