COVID-19's Implications for Accounting Courses' Competence Development: The Case of Portugal

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Abstract

Over the past few decades, higher education in accounting has been criticized for its focus on developing technical competences at the expense of general competences. The objective of this study is to analyze the general competences developed by the final-year students of accounting courses at Portuguese public polytechnics and to compare them with the most evident ones identified through a literature review for the current accounting profession. The study adopts a quantitative approach, carried out through a survey of 137 final-year students in the 2019/2020 academic year and using the techniques of descriptive and multivariate statistics. Among the main results, it was found that the ability to use information and communication technologies and lifelong learning were the most developed general competences. The results obtained allow us to conclude that the new practices developed through distance learning facilitated the development of technological competences, producing new reflections for improving the training of accountants.

Keywords: accounting, accounting competences, general competences, final-year students, new challenges, COVID-19 implications

1. Introduction

Currently, companies are undergoing very rapid changes, and it is imperative that accounting professionals develop skills that extend beyond the technical knowledge of the profession (Aryanti & Adhariani, 2020). Studies carried out in countries with good educational systems, such as the United States of America (USA), the United Kingdom, and Australia, have highlighted the inadequacy of accounting graduates. In the last two decades, research has suggested that education in this area is outdated and that curricula do not meet employers' expectations and needs; therefore, there is no harmony with real-world requirements (Albrecht & Sack, 2000; Aryanti & Adhariani, 2020; Derekoy, 2019; Getahun & Mersha, 2020; Jackling & de Lange, 2009; Kavanagh & Drennan, 2008; Lim et al., 2019). Faced with the new challenges of the accounting profession, other studies have focused on the competences that accounting graduates are currently required to have due to the rapid changes in the technological environment (Bressler & Pence, 2019; Dwaase et al., 2020; Pan & Seow, 2016).

This work was necessary because the literature review showed a gap between the competences acquired by accounting students and those required by employers, namely general competences. Thus, there is a need to understand whether, given the rapid adaptation to new teaching and learning methods due to the distance learning scenario, there has been convergence between the competences developed and those required. The purpose of this study is to analyze the general competences developed by final-year accounting students from Portuguese public polytechnic higher education in the academic year 2019/2020 and to compare them with those that are more evident in the literature review for the current profession accountant. Specifically, the paper sought to answer the following question: "What are the final-year students' perceptions of the accounting courses at the Portuguese public polytechnic in relation to the competences developed in the period of distance education marked by the coronavirus pandemic?"

It was considered necessary to carry out an analysis of the development of these competences, obtaining feedback from students with this experience. The importance of the study is evident in its contribution to raising the

educational level of students, which can trigger the possible adoption of new and different teaching methods from those used in face-to-face teaching, in particular the incorporation of more tools related to information technologies.

The paper is structured as follows. Section 2 presents a review of the literature on the development of general competences in higher education and the competences that are demanded in the labor market. In Section 3, we describe the methodology used to analyze the perceptions of final-year students. In Section 4, we present the empirical results of the study. In Section 5, we discuss the findings. Finally, in Section 6, we present the contribution and limitations of the study and identify opportunities for further research.

2. Literature Review

2.1 Development of General Competences in Higher Education

Recent political, economic, and social changes in the knowledge society have demanded that higher education responds to the new challenges of companies, developing talented competences, to prepare future professionals for new methods and processes based on the reinvention of teaching/learning in addition to the necessary technical training. The teaching of accounting has always reflected the need to adapt to the context of constant changes in which organizations operate. From this perspective, it is necessary for higher education institutions to provide in-depth and specialized training, which allows their graduates to meet the current needs of the labor market, and to bring the training offered closer to the profiles predominantly sought by the working world (Kavanagh & Drennan, 2008).

Over time, the literature has highlighted that employers consider there to be a misalignment between the profile presented by recent accounting graduates and that required by the labor market for the exercising of professional activity. Employers expect recent graduates to be equipped with a wide range of competences and knowledge (Kavanagh & Drennan, 2008) beyond the technical competences of the profession. Consequently, the gap in the development of more generic competences has been the main criticism pointed out regarding higher education in accounting (Cory & Pruske, 2012; Jackling & De Lange, 2009; Kavanagh & Drennan, 2008). According to Lim et al. (2016), technical competences are developed over the course of education; however, students may lack certain personal competences required by employers to deal with customers in today's global business environment.

The rationale for developing general competences stems from the shift to a knowledge economy, increasing globalization, and technological challenges. The *International Education Standards for Professional Accountants and Aspiring Professional Accountants* framework of the International Accounting Education Standards Board (IAESB) states that "professional competence … goes beyond knowledge of principles. … it is the integration and application of (a) technical competence, (b) professional skills, and (c) professional values, ethics, and attitudes" (IAESB, 2015, p. 7).

A study carried out by Domingos (2017) with accounting final-year students concluded that the five most developed general competences during their academic training were (i) teamwork, (ii) the ability to work under pressure, (iii) time management, (iv) interpersonal competences, and (v) organizational competences. Bressler and Pence (2019) asserted that accounting graduates may not have the necessary competences, particularly social competences, to succeed in the profession. The authors claimed that the reason may be related to the differences between millennial students and students from previous generations. According to the authors, accounting graduates need to have technical competences and social competences, such as analytical thinking and communication competences.

On one hand, some studies have indicated the insufficiency of the general competences developed by accounting graduates; on the other hand, studies have highlighted methodologies that can help general competences to be developed throughout the course. One of these methodologies is to use simulation models embedded in problem-based learning methodologies, which have been mentioned in studies carried out in Portugal (Almeida et al., 2009, 2015) and Brazil (Martins et al., 2016). Another methodology that has been pointed out as a contribution to the development of general competences is curricular internships, as mentioned by Paisey and Paisey (2010) in relation to Scotland and Covas et al. (2017) in relation to Portugal. More recently, Ugwuanyi et al. (2022) concluded that information technologies are indispensable for the implementation of formative assessment practices in higher education institutions in Nigeria. However, they found that gender and academic background influence teachers' perception of the use of these tools and their effective implementation.

Despite the new methods adopted by higher education to fill the gap referred to in the literature, according to Getahun and Mersha (2020), there is empirical evidence that proves that higher education fails, in many cases, by not meeting the standards expected by employers in crucial areas, such as (i) critical thinking, (ii) communication (oral and written), (iii) interpersonal relationships, (iv) ethical guidance, (v) leadership development, and (vi) information

technology. The authors also reinforced the idea that the ability to communicate is relevant to promoting the employability of accounting professionals.

2.2 General Competences Required by the Labor Market

Lim et al. (2019) stated that graduates in the field of accounting must have knowledge in other areas, such as behavior and communication. Dzuranin et al. (2018) supported this assertion by stating that this knowledge is related to (i) interpersonal competences, (ii) time management, and (iii) continuous learning, stressing that, despite the importance of technical accounting knowledge, companies give greater importance to general competences in the recruitment and selection processes.

Technical competences are crucial for accounting graduates to develop a successful career. They must be technically competent in the scope of the functions for which they are hired; that is, they must have mastered the basic knowledge related to accounting among other legal requirements (Lim et al., 2019). Moreover, employers are looking for (i) the ability to work in a team, (ii) the ability to deal with stress, and (iii) the ability to solve problems (Lim et al., 2019).

Since we are currently facing information and communication technology challenges, students must also have solid knowledge in this field to succeed in the profession. Companies are using computer programs for the aggregation and processing of databases, and nowadays they require accountants with knowledge of database management and information systems (Dzuranin et al., 2018), specifically Microsoft Excel, Word, and Windows (Aryanti & Adhariani, 2020; Cory & Pruske, 2012; Dzuranin et al., 2018). The last authors also considered that information and communication technologies (ICT) are one of the driving factors for change in the functions of accounting professionals.

The aspect of technologies was also emphasized by Pan and Seow (2016), who mentioned that accountants should not only know how to use basic accounting software but also have solid knowledge of the technological elements that are included in computer applications, such as files that automate part of the accounting procedures. Thus, according to the authors, the trend in the future will be greater integration of technology in companies, with the implementation of services and management systems for the value chain via the Internet. They mentioned that the emergence of cloud computing can mean intensive training for accountants to enable them to keep up with the evolution of technology. The authors argued that accounting needs highly technical specialists in accounting information systems to deal with the new requirements, which may impose changes on the curricula of accounting courses.

From this perspective, the IAESB (2019), in the latest version of the *International Education Standard (IES) 2—Initial Professional Development—Technical Competence* norm regarding the apprenticeship of candidates for accountants, has deepened the description of the competences related to ICT among the technical competences expected from students in this area. IES 2 states that, from 2021, accounting students are expected to be able (i) to explain the impact of the development of ICT in the environment of an organization and business model; (ii) to explain how ICT supports data analysis and decision making; (iii) to explain how ICTs support the identification, reporting, and management of risks in an organization; (iv) to use ICT to analyze data and information; (v) to use ICT to increase the efficiency and effectiveness of communication; (vi) to apply ICT to increase the efficiency and effectiveness of an organization's systems; (vii) to analyze the adequacy of ICT processes and controls; and (viii) to identify improvements in ICT processes and controls (IAESB, 2019, p. 123).

Domingos (2017) interviewed 10 specialists from accounting companies about the competences (general and specific) that they expect from recent graduates and that are crucial for them to carry out their professional activity. Most of the interviewees agreed that, in terms of technical competences that are specific to the profession, recent graduates must have mastered the accounting language and know how to prepare and recognize the interconnection between financial statements. Regarding general competences, the interviews highlighted (i) teamwork, (ii) continuous learning, and (iii) the analysis of any type of information. In total, 90% of the respondents considered that higher education in accounting technically prepares its students well, and 80% of the respondents reported that accounting education has evolved considerably due to several updates in the curricular units, providing a more practical view and better preparation for entering the labor market.

Birt et al. (2018) mentioned that the role of accountants in the digital age is changing with the increased adoption of technology, stating that the combination of behavioral competences and artificial intelligence will create new challenges for the profession. In the research conducted by Aryanti and Adhariani (2020), the employers referred to (i) the importance of work ethics, (ii) teamwork, (iii) time management, and (iv) the ability to analyze financial

statements. The authors also concluded that there is a gap between the perception of students and the expectations of employers regarding the general competences of graduates, which is not the case for specific accounting knowledge.

Table 1 presents the general competences required by employers that were referred to in the literature review. Column 1 shows the general competences, in alphabetical order, and column 2 indicates the studies that conducted tests and concluded that employers required these competences.

Table 1. General competences required by employers

General Competences	Studies
Ability to handle stress	Lim et al. (2019)
Ability to use information and communication technologies	Cory and Pruske (2012); Domingos (2017); Dwaase et al. (2020); Dzuranin et al. (2018); Jackling and De Lange (2009); Lim et al. (2016)
Ability to work in a team	Aryanti and Adhariani (2020); Derekoy (2019); Domingos (2017); Jackling and De Lange (2009); Kavanagh and Drennan (2008); Lim et al. (2016, 2019)
Analytical ability	Bressler and Pence (2019); Dwaase et al. (2020); Getahun and Mersha (2020); Jackling and De Lange (2009); Lim et al. (2016)
Communication ability (oral and written)	Bressler and Pence (2019); Derekoy (2019); Domingos (2017); Dwaase et al. (2020); Dzuranin et al. (2018); Getahun and Mersha (2020); Jackling and De Lange (2009); Kavanagh and Drennan (2008); Lim et al. (2016)
Continuous learning	Domingos (2017); Dzuranin et al. (2018); Kavanagh and Drennan (2008); Lim et al. (2016)
Critical thinking	Domingos (2017); Lim et al. (2016)
Intellectual competences	Dwaase et al. (2020)
Organizational and business management	Dwaase et al. (2020); Jackling and De Lange (2009)
Personal competences	Dwaase et al. (2020)
Problem-solving ability	Cory and Pruske (2012); Domingos (2017); Getahun and Mersha (2020); Jackling and De Lange (2009); Kavanagh and Drennan (2008); Lim et al. (2016, 2019)
Time management	Aryanti and Adhariani (2020)
Work ethics	Aryanti and Adhariani (2020); Cory and Pruske (2012); Derekoy (2019); Jackling and De Lange (2009); Kavanagh and Drennan (2008)

In addition, Dwaase et al. (2020) reported that the success of the accounting professional is related to a combination of competences: (i) intellectual; (ii) technical; (iii) personal; and (iv) interpersonal. The authors mentioned that (i) intellectual competences are responsible for decision making and problem solving; (ii) technical competences are related to matters in the accounting and financial area; (iii) personal competences are responsible for adaptation to change and acting with ethics; and, finally, (iv) interpersonal competences are associated with the interaction of all the competences.

In summary, the great changes that have taken place in the 21st century are causing accounting professionals to face new professional challenges. Currently, accountants play a key role in companies' strategy and interact with individuals from different functions (Lim et al., 2016), making it necessary to have a broader set of competences. Despite the extreme importance of technical knowledge in the area, according to employers, an accountant must be able to analyze, use computer applications, communicate, work in a team, and learn continuously (Domingos, 2017; Dwaase et al., 2020; Dzuranin et al., 2018; Getahun & Mersha, 2020; Jackling & De Lange, 2009; Kavanagh & Drennan, 2008; Lim et al., 2016). The gap highlighted in the literature review between the competences acquired by students and those required by employers makes it necessary to understand the perceptions of final-year students of

accounting courses in Portugal about the competences developed in the period of distance learning marked by the coronavirus pandemic. This study may trigger the adoption of new and different teaching methods from those currently used in classroom teaching.

3. Research Methodology

3.1 Study Instrument

The methodology is based on a questionnaire survey, and the sample consists of the final-year students enrolled in 2019/2020. The survey was adapted from the survey carried out by Domingos (2017).

In the current research, all the questions of the survey are closed. The survey design includes in the introduction its purpose and a guarantee of confidentiality and anonymity. This survey has been validated and tested and contains two sections: (i) sociodemographic characterization and (ii) the general competences developed. The first section consists of questions to characterize the respondents in terms of gender, age group, and higher education course attended. The second section assesses the respondents' degree of agreement with the development of the general competences during the course. To perceive the intensity of the respondents' opinion, we use a scale with seven levels, which range from (1) strongly disagree to (7) strongly agree. In Table 2, we present the 16 questions (Qs) about general competences.

Table 2. General competences developed by students

Code	General Competences
Q1	Problem-solving ability
Q2	Ability to integrate information
Q3	Ability to analyze information
Q4	Ability to use information and communication technologies
Q5	Ability to work under pressure
Q6	Ability to work in a team
Q7	Lifelong learning ability
Q8	Ability to perform a critical analysis
Q9	Ability to engage in self-criticism
Q10	Time management
Q11	Ability to create interpersonal relationships
Q12	Decision-making ability
Q13	Reasoning ability
Q14	Ability to organize work
Q15	Ability to assess the quality of work performed
Q16	Communication ability (oral and written)

Each competence is accompanied by a brief description to avoid possible double interpretations.

3.2 Study Population and Sample

The population/universe consists of the Licentiate Degree courses in which students are enrolled in the last curricular year of "Accounting and Taxation (0411)," which are offered by Portuguese public higher polytechnic institutes and which are accredited by the Agency for Assessment and Accreditation of Higher Education (A3ES), during the 2019/2020 academic year. According to data from the General Directorate of Education and Science Statistics (DGEEC, 2021), during this academic year, 1880 individuals were enrolled in the courses under study.

Given the geographical dispersion of the institutes and the nature of the questions and considering that we wanted to receive the greatest possible number of answers, we decided to use the Google Forms platform. To increase the number of answers to the survey questionnaire, we sent 26 emails to the degree course directors, requesting the disclosure of the questionnaire link to their students. The contact details of the course directors were obtained by collecting their email addresses through the websites of the institutions under study.

Given the number of individuals in the population, for a confidence level of $\lambda = 95\%$ and a precision level of $D = \pm 5\%$, the sample dimension is $n = 319$ final-year students. We obtained 166 responses; however, only 137 are valid. According to Fortin (2009), for a questionnaire survey to guarantee security, answers must be obtained from least 25%

of the sample. In this study, the responses to the questionnaire survey correspond to a rate of around 43% of the sample.

3.3 Data Analysis

In the characterization of the sample, we use measures of central tendency and absolute and relative frequency. Regarding the dispersion measures, we employ the standard deviation to analyze the variability of the data. We also use principal component analysis (PCA) with the objective of reducing the number of variables without losing too much information (Marôco, 2014; Sarmento, 2013).

Thus, the adequacy of the PCA procedure for the data was evaluated through the Kaiser–Meyer–Olkin (KMO) measure and the Bartlett sphericity test, as shown in Table 3. This procedure is suitable for the data since KMO > 0.9 (very good suitability) and the null hypothesis of Bartlett's test of sphericity of the non-existence of significant correlations in the variables is rejected ($X^2_{(120)} = 1460.807$, $p < 0.01$).

Table 3. Adequacy measures of the PCA procedures

Kaiser–Meyer–Olkin Measure of Sampling Adequacy	0.933
Bartlett's Test of Sphericity	
Approx. Chi-Square	1460.807
df	120
Sig.	< 0.01

The second and third steps for applying the PCA involve extracting the main components and determining the number of components necessary for them to represent a significant percentage of the original data. It is also important, for each variable, to quantify the information that remains after extracting the components. Therefore, we must analyze the correlation between the variables after extraction based on the common variance of a variable, that is, the variance that can be shared with other variables (Hair et al., 2013).

This analysis is performed through the commonalities, which estimate the proportion of common variance that exists in a variable, and after extraction. The commonality of each variable will have to be greater than 0.5 to avoid losing more than 50% of the information (Hair et al., 2013). To determine the number of principal components to retain, and considering that the objective of PCA is to reduce information, the explained variance criterion indicates that the retained components should explain at least 60% of the information, that is, of the total variance (Sarmento, 2003).

4. Results

4.1 Characterization of the Respondents

Table 4 shows the sociodemographic characteristics of final-year students enrolled in the 2019/2020 school year by gender, age group, and higher education course attended.

Table 4. Characterization of final-year students enrolled in 2019/2020

Sociodemographic Variables	Frequency	%
Gender		
Female	90	65.69
Male	47	34.31
Age range		
Below 25	118	86.13
26–35	11	8.03
36–45	6	4.38
46–55	2	1.46
Undergraduate degree attended		
Accounting and Administration	67	48.90
Accounting and Taxation	41	29.93
Accounting	15	10.95
Accounting and Finance	14	10.22

According to Table 4, the respondents are mostly female (65.69%). Regarding their age group, the students are under 25 years old (86.13%), and they attend the Accounting and Administration course (48.90%).

4.2 Respondents' Perception of General Competences

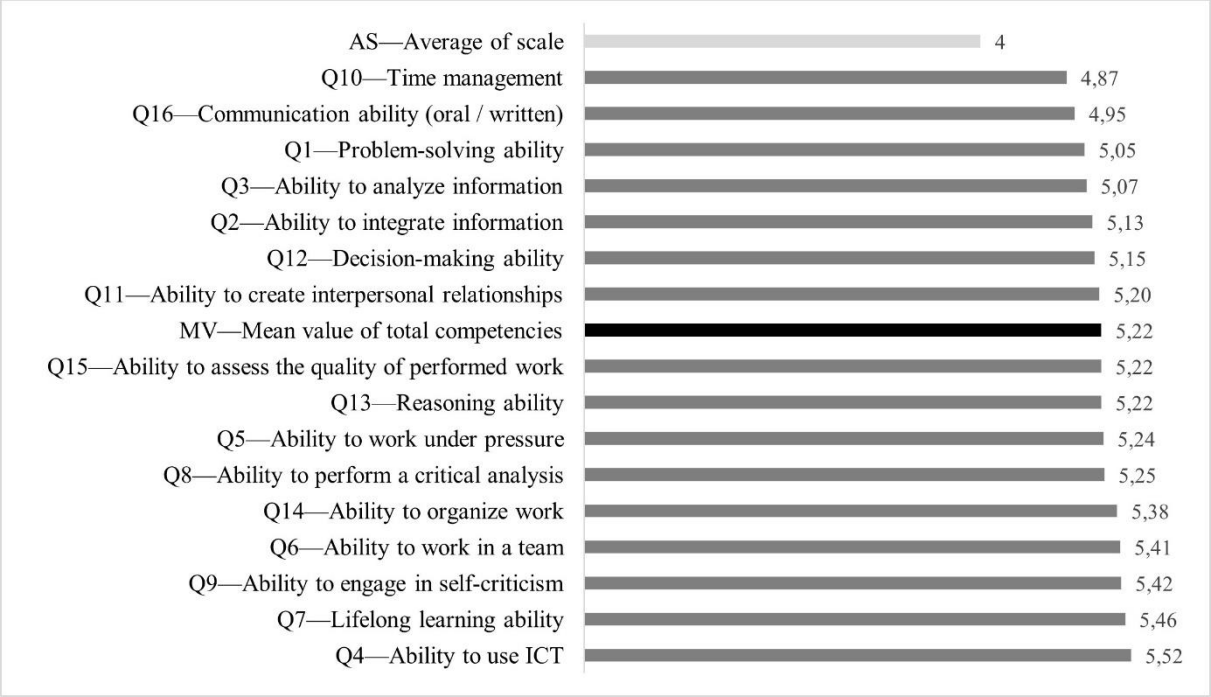
In this section, to answer the research question, we present the analysis of the respondents' perception of the 16 general competences along the training path in the academic year 2019/2020. According to Table 5, students stated that the "ability to use ICT" (Q4) (x_{m4} = 5.52) was the most developed, then highlighting the "capacity for lifelong learning" (Q7) (x_{m7} = 5.46). In addition, among the most developed competences in the academic year, students mentioned the "ability to self-criticize" (Q9) (x_{m9} = 5.42), the "ability to work in a team" (Q6) (x_{m6} = 5.41), and the "ability to organize work" (Q14) (x_{m14} = 5.38) as the third, fourth, and fifth competences with the highest degree of agreement, respectively.

Table 5. Perception of final-year students in relation to the 16 general competences

General Competences (1: Totally Disagree–7: Totally Agree)		Descriptive Statistics					
		X_m	S	Mode	Maximum	Minimum	Rank
Q1	Problem-solving ability	5.05	1.02	5	7	1	14
Q2	Ability to integrate information	5.13	1.11	6	7	1	12
Q3	Ability to analyze information	5.07	1.10	5	7	1	13
Q4	Ability to use information and communication technologies	5.52	1.27	6	7	1	1
Q5	Ability to work under pressure	5.24	1.29	6	7	1	7
Q6	Ability to work in a team	5.41	1.44	6	7	1	4
Q7	Lifelong learning ability	5.46	1.15	6	7	1	2
Q8	Ability to perform a critical analysis	5.25	1.07	6	7	1	6
Q9	Ability to engage in self-criticism	5.42	1.16	6	7	1	3
Q10	Time management	4.87	1.32	5	7	1	16
Q11	Ability to create interpersonal relationships	5.20	1.46	6	7	1	10
Q12	Decision-making ability	5.15	1.21	6	7	1	11
Q13	Reasoning ability	5.22	1.13	6	7	1	8
Q14	Ability to organize work	5.38	1.28	5	7	1	5
Q15	Ability to assess the quality of work performed	5.22	1.15	6	7	1	9
Q16	Communication ability (oral and written)	4.95	1.33	5	7	1	15

Subtitle: X_m—sample mean; S—standard deviation.

Graphic 1 shows the competences in increasing order of their mean values. It is interesting to remark that all the mean values of the general competences are over the average of the scale $x_m = 4$; moreover, they are tending to $x_m = 5$, which means that the competences are well developed. Of the 15 general competences, nine have mean values that are equal to or greater than the average value, $x_m = 5.22$ of the 15 general competences.



Graphic 1. Profile of the perception of general competences in increasing order

On the contrary, the "communication capacity" (Q16) ($x_{m16} = 4.95$) and "time management" (Q10) ($x_{m10} = 4.87$) are perceived as the least developed.

Relative to the PCA method, we conclude that there are three components that explain about 67.94% of the total explained variance of general competences. Aiming to achieve a better interpretation, we perform the orthogonal rotation, the so-called varimax, which is the most used type (Marôco, 2014; Sarmento, 2003).

Table 6 shows the strategic variables that belong to the main component, placed in descending order of the weight of their contribution. To test and validate the internal consistency of the dimensions found, we perform the Cronbach's alpha test, ensuring that the extracted factors are reliable; we conclude that main component 1 presents a very good correlation between the items and main components 2 and 3 show a good correlation.

Table 6. ACP results for general competences

	General Competences/Dimensions	Principal Component 1	Principal Component 2	Principal Component 3
Q6	Ability to work in a team	0.760		
Q12	Decision-making ability	0.742		
Q11	Ability to create interpersonal relationships	0.740		
Q13	Reasoning ability	0.660		
Q9	Ability to engage in self-criticism	0.649		
Q7	Lifelong learning ability	0.640		
Q15	Ability to assess the quality of work performed	0.557		
Q2	Ability to integrate information		0.759	
Q4	Ability to use ICT		0.741	
Q3	Ability to analyze information		0.680	
Q1	Problem-solving ability		0.633	
Q8	Ability to perform a critical analysis		0.598	
Q10	Time management			0.822
Q14	Ability to organize work			0.681
Q16	Communication ability (oral and written)			0.629
Q5	Ability to work under pressure			0.615
	Percentage of explained variance	27.00%	22.14%	18.80%
	Cronbach's alpha	0.917	0.863	0.798

Through the analysis of the variables that contribute the most to the definition of dimension 1, we nominate "Results orientation" as the foremost variable. In fact, the variables reflect students' ability to integrate easily and help each other in work teams, share information and knowledge with colleagues, identify the most suitable alternatives, and contribute to the development or maintenance of a good work environment to achieve the outlined objectives.

Dimension 2, shown in Table 6, explains 22.14% of the variance, and we nominate "Information analysis and integration." This characterization is linked to the fact that it includes variables related to the capacity to use information technologies appropriately, gather and analyze information from multiple sources and perspectives, identify information that is relevant to their activity, show dexterity when faced with a problem in analyzing the data, and consider the different response alternatives.

Dimension 3 has the designation "Management and communication" since the variables that make up this component show the students' ability to manage time effectively, set objectives and goals, organize their tasks and activities, maintain emotional control and professional judgment in difficult situations, manage tasks in a balanced way, and show behaviors aimed at presenting analyses and recommendations in a clear and precise manner.

Next, we create three dimensions, considering the mean values of the responses obtained from each final-year student. For each dimension, we carry out a descriptive analysis of the variables that constitute it, as shown in Table 7.

Table 7. Descriptive measures of general competences

PCA Components/Dimensions	X_m	S	Rank
Results orientation	5.29	1.020	1
Information analysis and integration	5.20	0.897	2
Management and communication	5.11	1.031	3

X_m—mean; S—standard deviation.

The analysis of Table 7 shows that the "Result orientation" dimension presents an average of 5.29, indicating that the competences that constitute it are perceived as being the most developed by final-year students. On the contrary, the students develop the competences contained in "Management and communication" less, but the difference is not statistically significant.

5. Discussion of the Findings

The data collected from the final-year students of the undergraduate degree in accounting courses in Portuguese public polytechnic higher education allowed us to obtain insights into the general competences that were most developed throughout the academic year 2019/2020. Thus, on a seven-point Likert scale, out of the 16 general competences presented, students tended to agree very much with the development of "ICT use capacity," with an average $x_{m4} = 5.52$.

The results show that, in this school year, the implementation of new digital measures meant that students had to develop competences related to information technologies quickly and intensely. The results obtained for this school year are in line with the literature review carried out, in which employers reported that it is currently essential for recent graduates to have this knowledge to ensure a good performance of their professional activity (Cory & Pruske, 2012; Dwaase et al., 2020; Dzuranin et al., 2018; Lim et al., 2016).

The literature also highlighted "the importance of accountants and recent graduates being willing to learn continuously" (Domingos, 2017; Dzuranin et al., 2018; Lim et al., 2016). The sample shows that this is the second most developed competence as students attributed it an average of $x_{m7} = 5.46$ out of 7; that is, they agreed and their tendency was to agree very much. The "ability to work in a team" ($x_{m6} = 5.41$) is also an important competence for the performance of the profession, which is in line with the literature (Aryanti & Adhariani, 2020; Derekoy, 2019; Domingos, 2017; Jackling & De Lange, 2009; Lim et al., 2016, 2019).

The literature indicated that "oral and written communication" is important for the performance of the accounting profession (Derekoy, 2019; Dwaase et al., 2020; Dzuranin et al., 2018; Jackling & De Lange, 2009; Kavanagh & Drennan, 2008; Lim et al., 2016). However, the data that we obtained show that this competence is the second least developed ($x_{m15} = 4.95$) since, during this academic year, we faced the COVID-19 pandemic and consequently higher education courses were taught online using the Teams and Zoom platforms.

The results indicate that, although the students emphasized their agreement with 14 of the 16 general competences presented, they did not attribute the same level of agreement to the competences perceived as important by the employers, as in the case of oral and written communication (Derekoy, 2019; Dwaase et al., 2020; Jackling & De Lange, 2009; Lim et al., 2016).

6. Conclusion

The present study aimed to analyze the perceptions of final-year students of accounting courses in Portuguese public polytechnic higher education regarding the general competences developed in the 2019/2020 academic year and to compare them with those most referred to in the literature regarding professional performance. From the findings of the study, competences related to information technologies and lifelong learning were considered to be the most developed in the 2019/2020 academic year, a year that required rapid adaptation to the new online reality due to the COVID-19 pandemic. However, at the level of the competences most evidenced in the literature, the ability to communicate was pointed out by the students as being the second least developed in the new model of distance learning. The results obtained allow us to deduce that, from the students' point of view, they were able to develop the ability to use technical means to analyze and process information and share it, facilitating access to learning resources and fostering the willingness to learn continuously.

Since the distance-learning scenario led to a rethinking of the teaching and learning process, we consider that it should translate into an opportunity for innovation and diversification of learning strategies and methods. Therefore, the options taken within the scope of the distance-learning model allowed the continuity of the teaching–learning process but also contributed to enriching the teaching practices in the face-to-face model.

This research aimed to acknowledge the academic and business community linked to the accounting area and the perspective of Portuguese final-year students taking accounting courses in public polytechnic higher education on the most developed general competences in an academic year that was different due to the changes in the teaching and learning methodologies due to COVID-19. By comparing the perspective of students with the general competences mentioned in the literature review, this research can contribute to promoting activities and/or triggering curricular changes in higher education institutions to enable students to obtain all the necessary knowledge and competences to enter the labor market.

The main limitation of this research was the difficulty in obtaining survey responses from final-year students. This situation is probably attributable to the fact that we did not know the students' e-mail addresses; thus, we requested the disclosure of the link through the course directors, who sent e-mails to their students.

For future research, we suggest comparing the conclusions obtained in this study with the perceptions of employers to understand whether, when hiring recent graduates who carried out a large part of their course via e-learning due to COVID-19, they can observe any changes in the developed competences. A further research avenue, arising as a consequence of this study, is the analysis of the technological competences currently required by employers of accountants since these are one of the main actual themes regarding the future development of the accounting profession.

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Conflict of interest

The researchers declare no potential conflicts of interest.

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Appendix

Questionnaire on general competences developed during the COVID-19 pandemic

Dear students,

We would like to ask for your collaboration in a study that aims to identify the general skills developed in accounting courses of the first cycle of higher education in Portugal in view of the new teaching/learning model introduced due to the COVID-19 pandemic. It is important to understand whether the skills acquired at this challenging time have changed in the face-to-face teaching context so that higher education institutions can be aware of what may be maintained, improved, or adapted in the post-pandemic period based on your experience, namely the possibility of continuing distance learning.

This questionnaire is anonymous, and the answers are for scientific and academic purposes only.

Estimated response time: 5 minutes

Your answer is very important for academia and society in general. We thank you in advance for your attention as well as your availability and collaboration.

Participant consent

The purpose of the study has been explained to me. I understand the research project and my role in it. I understand the confidentiality clause as stated by the researcher. I understand that I can withdraw my consent and participation in the research and there will be no penalty against me. If you consent to the above terms and conditions of the research, please confirm the following statement: I consent to participate fully in the study. ☐No ☐Yes

I—SOCIODEMOGRAPHIC CHARACTERIZATION

Please place a cross (X) in the appropriate response.

Sociodemographic characterization	
Gender	
Female	☐
Male	☐
Age range	
Below 25	☐
26–35	☐
36–45	☐
46–55	☐
Undergraduate degree attended	
Accounting and Administration	☐
Accounting	☐
Accounting and Finance	☐
Accounting and Taxation	☐

II—PERCEPTION ABOUT THE GENERAL COMPETENCES DEVELOPED THROUGHOUT THE COURSE

Please indicate your degree of agreement regarding the development of the following general competences during the course that you are attending.

		Totally Disagree	Largely Disagree	Disagree a Little	Neutral	Agree a Little	Largely Agree	Totally Agree
1	Problem-solving ability	1	2	3	4	5	6	7
2	Ability to integrate information	1	2	3	4	5	6	7
3	Ability to analyze information	1	2	3	4	5	6	7
4	Ability to use information and communication technologies	1	2	3	4	5	6	7
5	Ability to work under pressure	1	2	3	4	5	6	7
6	Ability to work in a team	1	2	3	4	5	6	7
7	Lifelong learning ability	1	2	3	4	5	6	7
8	Ability to perform a critical analysis	1	2	3	4	5	6	7
9	Ability to engage in self-criticism	1	2	3	4	5	6	7
10	Time management	1	2	3	4	5	6	7
11	Ability to create interpersonal relationships	1	2	3	4	5	6	7
12	Decision-making ability	1	2	3	4	5	6	7
13	Reasoning ability	1	2	3	4	5	6	7
14	Ability to organize work	1	2	3	4	5	6	7
15	Ability to assess the quality of work performed	1	2	3	4	5	6	7
16	Communication ability (oral and written)	1	2	3	4	5	6	7