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Relevant competences in accounting. The perspective of students and employers

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ABSTRACT

University education is focused on the acquisition of skills by students, regardless of the technical nature of the subjects and syllabus. In the field of accounting, previous literature has confirmed the existence of a gap in expectations between the skills of students and what would be desirable from a professional perspective. The main contribution of this paper is the analysis of desirable and acquired competences from two perspectives: students and employers, with the aim of analyzing to what extent the competences acquired by future accounting professionals are adapted to those required. The study includes both generic and accounting-specific competences. The results confirm that both groups (students and employers) agree on the skills required of accountants and confirm that these relevant skills are not being adequately acquired, showing that there is an expectation gap with regard to the skills acquired.

Competencias relevantes en contabilidad. La perspectiva de estudiantes y empleadores

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RESUMEN

La formación universitaria está orientada a la adquisición de competencias por parte de los estudiantes, con independencia del carácter más o menos técnico de las materias. En el ámbito de la contabilidad, la literatura previa ha constatado la existencia de un gap de expectativas entre la formación de los estudiantes y la que sería deseable desde una perspectiva profesional. La principal contribución de este trabajo es el estudio de las competencias desde dos perspectivas: estudiantes y empleadores, con el objetivo de analizar en qué medida las competencias adquiridas por los futuros profesionales de la contabilidad se adaptan a las demandadas. Además, se incluyen en el estudio tanto las denominadas competencias genéricas como las específicas de las materias de contabilidad. Los resultados constatan que ambos colectivos (estudiantes y empleadores) se muestran coincidentes en las competencias que debería poseer un profesional de la contabilidad actual y corroboran que esas competencias relevantes no se están adquiriendo en el grado necesario, evidenciando que existe gap de expectativas en la formación.

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1. Introduction

In recent years, the teaching-learning process has evolved and nowadays focus has been put on the competences to be acquired by the student (Montagud & Gandía, 2015). Learning outcomes highlight what a student is expected to be able to do and know once the corresponding educational course has been completed. As universities must prepare and train students to join the labor market by improving their employability, it would be beneficial for the competences acquired to coincide with those demanded of qualified professionals. Among the different possible professional orientations available to graduates, accounting offers high possibilities for future employment (Arquero et al., 2009; Agència per a la Qualitat del Sistema Universitari de Catalunya, 2015), both as an employee and from an entrepreneurial point of view. As such, it is important to analyze university education in this area.

Various accounting institutions and professional bodies (International Federation of Accountants-IFAC, 2017; Common Content, 2018; Association of Chartered Certified Accountants-ACCA, 2020) have established the competences that, from a practical point of view, would be necessary for future accounting professionals. Some of these organizations have even analyzed whether university graduates finish their studies with competences that would be later desirable (Association of Accountants and Financial Professional in Business, 2016). These organizations warn of the existence of a gap between the competences that students entering the labor market possess and those that the organizations that employ them expect. Academics and researchers have also made various contributions in the study of desirable competences from a professional perspective (Arquero, 2000; Ahadiat & Martin, 2015), and from the perspective of graduates (Arquero et al., 2009). They have found that there is a gap in expectations between the competences that students acquire at university and those that would be desirable for the development of professional positions in the field (Arquero et al., 2001, Kavanagh & Drennan, 2008; Arquero et al., 2009; Bui & Porter, 2010; Alcañiz et al., 2014; Jones, 2014; Lim et al., 2016; Webb & Chaffer, 2016; Howcroft, 2017; Riera et al., 2017; Montoya & Farías, 2018). This misalignment can sometimes be the cause of the difficulties encountered by graduates with their incorporation into the labor market (Mason et al., 2003; Wilton, 2008). Most of the studies have focused on analyzing the so-called generic competences from the perspective of employers or the students themselves, leaving those of a more technical nature in the background.

The relevance of the subject and the need for updated information to ascertain the situation and what corrective mechanisms can be introduced makes it advisable to go deeper and carry out studies that provide a current overview in the Spanish university context. It is important to involve employers in the process of contrasting learning outcomes (Jones, 2014), both from the perspective of the competences that would be desirable for a graduate and from the perspective of controlling the adequacy between the competences defined and those acquired (Sithole, 2015). In addition, there are few studies that include the students' perspective. It is also important for them to make their own evaluation and to know if they are aware of this training gap.

This paper makes a double contribution to the subject under study. Firstly, it analyzes the competences demanded and acquired, both from the perspective of students and employers, where most of the research carried out so far has focused either on one type of competence or on one of the groups. Secondly, the study includes both transversal competences and those of a more technical and specific nature in accounting, which have so far been little studied in the literature. The paper was carried out for the bachelor's degrees in Business Administration and Management (BAM) and in Finance and Accounting (F&A) at the University of Zaragoza. There are also few studies that have been carried out for the Spanish context. In both degrees, different accounting modules are taught that aim to provide students with specific competences in accounting, such as: Financial Accounting, Financial Statements, Financial Statement Analysis, Management Accounting, Mergers and Acquisitions Accounting, Management Control, Public Accounting, Consolidation of Financial Statements, and International Financial Reporting.

The final aim of the study was to detect the gaps or deficiencies observed in the skills acquired with a view to the employability of students by providing evidence and arguments in the debate regarding the gap of expectations in university education. Therefore, this study makes a relevant contribution to the study of both transversal and specific university competences, and their adaptation to the demands of the labor market in the Spanish context, by comparing students and employers. Another relevant contribution is the segmentation of employers according to their activity and size, as we try to highlight possible differences for companies in the consulting sector and for small or micro-companies with respect to the other types of companies in the sample.

The results may serve to reflect on the changes needed to enhance the employability of students in accounting-related subjects and may, therefore, be useful both for the teachers and academics in charge of preparing and implementing university teaching guides, and also for employers and students themselves. In fact, the results highlight the importance of incorporating both employers and students in the design of the academic competences to be acquired by future accounting professionals through the creation of platforms and networks that allow for a consensus on the skills to be acquired, thus reducing the gap.

To carry out the study, we conducted a survey of both students and employers to detect the degree of correlation between the skills acquired and the skills demanded. The results show a certain consensus on the skills considered relevant by both groups, as well as the existence of a gap between the skills required for professional practice and those acquired by university students.

The paper is structured as follows: after this introduction, we refer to competency-based learning and to the previous literature on the gap in expectations. We then define the methodology used and present our findings. The paper ends with a summary of the main conclusions and implications of the findings, as well as an outline of the study's limitations.

2. Competences of accounting professionals and previous literature

In the context of the European Higher Education Area, the definition of learning objectives is conditioned by the introduction of the concept of competence, which has emerged from different academic fields (Boyatzis, 2008; Dierdorff et al., 2009). Thus, the term "competence", which refers to the attitudes, abilities, and skills acquired by students during their education, has been chosen as a common language to express academic and professional profiles at the European level. Jackson (2009) stresses the importance of competences, which must be well defined in a curriculum as their mastery will improve professional activity.

This orientation according to the competence model, with a change of focus from teaching to learning, has entailed important changes in Spanish universities, given that it has affected the creation of teacher programs, the establishment of their aims, the teaching methodologies used (Calabor et al., 2018; Palazuelos et al., 2018), and the evaluation systems.

To some extent, in the field of accounting, this educational model had already been advanced in the report of the Bedford Committee of the American Accounting Association (AAA, 1986), which argued that in accounting education the broad development of personal skills and abilities is required and there should not only be training in the technical aspects of accounting. More recently, IFAC (2017) has issued three documents addressing the relevant competences for accounting professionals, differentiating between technical knowledge and capabilities, skills and abilities, and ethics, values, and attitudes. Among these institutional contributions, there is the Common Content Project (2018), in which the main accounting and auditing bodies in Europe collaborate with the aim of establishing a common framework of reference for quality professional accounting education.

In Spain, the teaching guides for accounting subjects include, in all cases, the so-called transversal competences, which are aimed precisely at the acquisition of the personal skills of communication, organization, and the specific or technical competences associated with the discipline under study.

However, as stated by the ACCA (2020), the skills of accounting professionals must be adapted to an ever-changing environment, which is currently marked by digitalization and sustainable development, in order for future curriculum to be based on competences and not on qualifications. The ACCA also notes that technical skills and ethics are the fundamental competences in all functions performed by accounting professionals.

This changing environment, as well as the possible constraints in the practical application of the guides and documents that define competences, may cause some differences to emerge between the training acquired and the defined or desirable competences. This may also affect the importance given to different competences, and some differences may appear between what is desirable or required and what is reality.

In the literature, the line of research on competences in accounting contains numerous works that try to analyze what the situation is in practice and to what extent there is an alignment between the competences required and those available. The literature refers to the differences between the training acquired and that which would be expected in order to progress in a job in the field of accounting, as a gap of expectations in terms of competences. However, the differences with respect to what was planned have been described as a gap of expectations in terms of performance (Bui & Porter, 2010). The following is an analysis of the previous studies in this area. It refers first to the studies carried out in the international context and then to the work developed in Spain.

Firstly, a group of research projects aimed at the study of generic or transversal competences, which are especially frequent in the international context, can be noted. Within these studies, it should be highlighted that there are differences in the populations under study: some focus on the perception of employers, others approach the question from the perspective of students, a third group simultaneously addresses students and employers, and finally, there are other studies which also include academics and teachers to further understand their perspective.

Among the works that analyze the employers' perspective, it is worth mentioning the work of Kavanagh & Drennan (2008), carried out in Australia, where it is noted that many of the essential non-technical and professional attributes and skills are not sufficiently developed in university accounting programs. In the opinion of employers, the three most important competences are: analytical and problem-solving skills, knowledge of the real business world, and basic accounting competences. Lim et al. (2016), for the Malaysian case, show that accounting graduates do not possess the skills and personal attributes that they should have according to employers. Jones (2014), in the UK context, observes that, for employers, the most important thing is the ability of new graduates to establish professional credibility among colleagues and clients. This requires the ability to communicate but also calls for the appropriate attitudes and behaviors.

Focusing on the perception of students and graduates, it is worth mentioning the work of De Lange et al. (2006), whose results show that graduates perceive communication and analytical skills as the most important qualities required for a successful accounting career. In the United States, Lin et al. (2013) find that practicing accounting professionals value the ability to communicate, both verbally and in writing, as well as interpersonal skills, more highly than students. Chaffer & Webb (2017), in a study conducted in the United Kingdom with students of the Certified Institute of Management Accounting (CIMA) professional certificate training program, determined that students are aware of deficiencies in the generic competences acquired, with respect to what would be desirable, but also note that there are no differences in competences between university graduates and non-graduates. In the authors' opinion, this suggests that the deficiencies in competences are not entirely attributable to failures of the higher education system to provide development opportunities, and may be due, in part, to other factors that are important for the development of competences. In the same context, when comparing the generic skills provided by an accounting degree versus degrees in other areas or disciplines, Webb & Chaffer (2016) conclude that the skills provided by an accounting degree are comparable to other degrees, although oral communication skills, the ability to take a global view of an organization, resilience, and ethical awareness, could be improved in accounting degrees.

The third group of papers identified in the literature address and compare the perception of students and employers. The work of Azebedo et al. (2012), positioned within the scope of a project carried out in four European countries (Austria, United Kingdom, Slovenia, and Romania) should be mentioned. The results of this study show how around 82% of employers and graduates recognize the importance and necessity of training in competences during their time at university; however, this percentage drops considerably when asked about the ability of graduates to develop the competences through professional activity. The work carried out by Dolce et al. (2020) for the case of accounting graduates in Italy is also worth noting. This study finds differences in the perceptions of graduates and the real expectations of employers. The results of the research found that employers value generic competences more than specific or technical competences, and, in particular, the ability to work in a team and oral communication are the most valued.

Moreover, there is the work of Arquero et al. (2019), which includes the perception of students and employers with the aim of assessing the competences acquired by students in the UK. It finds that the perception of students is not the same as that of employers. There is a very positive evaluation by stu-

dents of the skills they acquired during the course of their studies, which the authors call 'overconfidence'. This can make any academic effort to improve students' competences less effective, since they do not consider it necessary.

Within the group of studies that simultaneously address the perception of students, employers, and academics, it is worth mentioning the work of Alcañiz et al. (2014), which finds that among the most valued competences are the ability to learn, organization and planning, and teamwork. This is a view shared by Riera et al. (2017). Montoya & Farías (2018) also adopt this global approach for the case of Mexico, highlighting that there is a gap between the training offer of universities and the demands of the labor market in terms of knowledge, skills and values, ethics, and attitudes.

With regard to specific or more technical competences, there is also previous literature that confirms this lack of adaptation to demand. For example, the results of the study by Pan & Perera (2012) for the case of an Australian university should be noted. These results concluded that existing university accounting programs are not always in line with market expectations, due to some inconsistencies in program structure and emphasis. The authors highlight that there is a need to improve competences in interpreting accounting, and how accounting can be used to improve a business. Senik et al. (2013), in their work on competences in the use of new technologies and accounting, note deficiencies in the handling of specific software on accounting, auditing, and taxation, as well as in competences related to the understanding of new technologies. The authors argue that the lack of communication between stakeholders in accounting education is the perceived factor causing the existence of such a gap, and propose that it should be university teachers who create platforms to promote communication between all stakeholders in education, including potential employers and students, so that the needs and expectations of skills can be clearly identified and communicated, and, thus, reduce the gap.

In Spain, studies analyzing the adaptation of competences to market demands are still emerging, and practically no studies have yet focused on the field of accounting. The pioneering work carried out by Arquero et al. (2009) on the training needs of students can be noted here. In this study, the authors show that graduates who have jobs place high a value on training in the area of accounting and highlight some training deficiencies in transversal competences, such as oral and written communication and problem-solving. With a more general orientation and studying the perspective of the companies that host internship students, Montoro et al. (2012) observed significant differences between the competences available and the competences required of students who join internship programs. These differences are mainly found in the generic instrumental and personal competences. Cano et al. (2015), through a survey of employers, found that, in their opinion, students do not have a high level of training in virtually any of the curricular modules, and even in some of them, knowledge is scarce. However, regarding transversal competences, which are considered to be of great importance to employers, they point out that students have a higher level than in their knowledge of curricular modules.

In summary, the previous literature confirms that this gap in expectations between the acquired and the desirable competences is a widespread problem worldwide, pointing to the existence of possible problems in the education of university graduates. This reinforces the importance of carrying out studies in this area in order to provide an overview of the situation and the possible solutions that should be offered from an institutional perspective. In particular, in the accounting field, progress is still needed for student awareness regarding the most relevant competences, with a commitment from academics being fundamental in improving the skills demanded by employers (Dolce, V. et al., 2020). It is important to monitor and adjust students' competences and skills according to those required by the labor market (Sithole, 2015).

This study is framed within this context and aims to contribute to bridge the gap of expectations between employers and students in Spain, both in terms of generic competences and the specific or more technical competences that are relevant to the field of accounting. This is a novel contribution, as far as these accounting competences are concerned, given that, to date, there are few studies carried out in Spain that have dealt with these types of competences.

3. Research methodology

This paper analyzes the competences acquired by students in Business Administration and Management (BAM) and Finance and Accounting (F&A) at the University of Zaragoza, as well as the competences considered necessary to join the business world, both from the perspective of the students themselves and from that of employers. The research questions for which the work is intended to provide answers are the following:

> ***RQ1:*** *What are the most relevant competences that BAM and F&A students should have when they join internship programs in accounting and finance?*
>
> ***RQ2:*** *What are the competences acquired by students of the BAM and F&A degrees? Is there a consensus between students and employers?*
>
> ***RQ3:*** *Is there a gap between the competences acquired and the competences demanded from the perspective of students and employers?*

In order to answer the research questions posed above, a survey on the competences of students in BAM and F&A was designed. The survey was developed through group work sessions (Arquero et al., 2009). This included the participation of several professors with extensive experience in teaching research projects. Professors with knowledge of the teaching guides from the different accounting modules in the degrees, and other professors with a more professional profile, were also included. The purpose of the meetings was to define the structure and basic lines of the questionnaire. Specifically, we proceeded to analyze the teaching guides of the accounting modules from both degrees at the University of Zaragoza, grouping them into the generic items that were considered most relevant and, at the same time, understandable in order to avoid misunderstandings on the part of the two groups surveyed. Likewise, the working group carried out a review of the existing literature on previous research with objectives similar to those pursued in this work.

Once the draft questionnaire had been written, a stage of semi-structured interviews was carried out with students and employers who had participated in internship programs with the F&A and/or BAM degree. This was done with the purpose of completing and validating the questions included, as well as incorporating the suggestions received.

The questionnaire aimed to collect those competences that were more specific to accounting professionals, and included competences of a transversal or generic nature. However, some of the generic competences that are understood to be necessary for any professional, and whose relevance had already been noted in the literature, were not included, as

this prevented the questionnaire from being excessively long (this is the case, for example, for oral and written communication, which is noted in Arquero et al., 2009 as the most relevant).

On the other hand, in the development and drafting of the questionnaire, we tried to minimize both the cost of response for respondents and possible ambiguities in the interpretations (Arquero et al., 2009). The aim was to be able to assess the extent to which the education received by students studying degrees in accounting-related subjects was or was not in line with the competences required in the internship programs that took place in companies in this field. Therefore, most of the competences were specific to the field of accounting.

For each of the competences identified, each respondent, both students and employers, was asked to rate:

a) The degree to which they considered that students had acquired the identified competences throughout the degree (would correspond to the competences acquired). In other words, for each item they were asked their opinion on the level acquired, using a Likert-type scale where 1 represented "Not acquired" and 7 "Completely acquired." This aspect was assessed by both groups, so that students would give their perception of the competences acquired and employers would give their perception of the levels demonstrated by the students.

b) The degree of relevance they attached to that competence for the employability of students. In other words, they needed to also assess the extent to which they considered that competence to be important for an accounting professional, also using the Likert scale, where 1 represented "Not at all relevant or not at all necessary" and 7 "Completely relevant or very necessary". Again, both groups were asked to rate importance.

Thus, for both students and employers, two opinions were available: level acquired and relevance of the competence. As can be seen in Tables 1 to 6, these data subsequently allowed for various analyses of differences by means of non-parametric tests.

Given the breadth of the scale, we discarded the use of an online survey (Google forms) since the scale could not be fully displayed on mobile devices. Instead, we designed an Adobe pdf form that could be autocompleted and sent automatically. This was individually sent by e-mail to the entire sample.

The sample for data collection consisted of: a) BAM and F&A students who, in the last three academic years, had completed internship programs in accounting-related areas and b) those responsible for the internship programs in the companies that hosted these students. We tried to capture the vision of students and employers, in order to contrast the fit or misalignment between the opinion of students and employers. The analysis of the results was carried out both globally and by segmenting employers into two groups: managers of companies operating in the business consultancy sector, as it was the main recipient of students on internship programs related to the field of accounting (almost 50% of the employers surveyed), and managers of companies in other sectors.

On the other hand, given the important weight of small or micro-companies among the group of employers that received our internship students (53.76% of the total number of respondents), within the analysis, we paid special attention to this subgroup of employers because we understand that they may have had different expectations from the rest.

In the group of students, in addition to making comparisons between BAM and F&A students, we analyzed the effect of gender on the students' perception.

To carry out the survey, we had the collaboration of Universa, the University of Zaragoza's orientation services, which is run by the University and the Regional Government, through the Aragonese Institute of Employment. Universa aims to bring together educational and productive institutions, as it is the body responsible for managing internship programs for students from the Faculty of Economics and Business. Their collaboration was essential to circulate the survey to both students and employers. In the latter case, contact was made with the professionals who had tutored the students in the respective companies where they had carried out their internship programs.

The original sample consisted of 355 BAM and F&A students, which is the total number of those who had completed internships in accounting and related areas in the last three years, and 195 companies that had received students doing internships.

After sending the survey twice by e-mail, the response rate was 15.21% for the students (54 surveys received) and 47.69% for the companies (93 completed questionnaires). The total number of surveys received, by group, is as follows:

- 93 companies
- 38 BAM students, of whom 25 were women and 13 were men
- 16 F&A students, of whom 8 were women and 8 were men

The data show that the sample was small, making it, therefore, an exploratory analysis carried out with students from a single university, and, as such, the results cannot be generalized to other universities. In relation to the group of companies, we segmented the sample according to the type of activity of the companies, finding that 44 companies were consultancies (specialized in advising companies in the areas of taxation, accounting, administration, and business control). Since we have an economy where services represent an important percentage of economic activity and where the size of companies is fundamentally small-medium, in the end, it is the consultancy sector that receives the greatest proportion of students doing internship programs and is also the one that offers the greatest employment possibilities in the field of accounting. For this reason, we decided to separate this group within the sample. Thus, all contrasts were carried out jointly and were also segmented, differentiating the companies belonging to the consultancy sector from other types of companies, as we considered that we could obtain differentiated results for this group. Given that 50 companies were small in size, all the companies were also segmented according to size, differentiating between micro-companies and other types of companies,

In addition to a descriptive analysis of the data, the Mann-Whitney rank sum test was used to identify not only the significant differences between students and employers (as a whole, by sector, and by size) but also the significant differences between the competences demanded and acquired, from the different perspectives. A statistical analysis was performed using the SPSS statistical package.

4. Analysis of the results

4.1. Relevant competences of BAM and F&A students

In order to check whether or not there were differences between the opinions of BAM and F&A students, prior to analyzing the data, we carried out a statistical study of the difference in the means, comparing the responses of both groups of students to each of the items.

The results of the statistical analysis for the comparison of BAM and F&A students (shown in Annex 1) showed that, despite having different curricula, there were no significant differences in terms of the competences perceived as necessary, with the exception of document recognition and interpretation, which, although all students considered this very important, BAM students gave it a significantly higher value. Regarding the competences acquired in their undergraduate studies, significant differences only arose in the knowledge of the reporting value of financial statements and in the application and interpretation of the main economic and financial ratios, with the F&A students being those who, curiously, in comparison with the BAM students, showed a certain weakness in what they had learned in this area. In any case, it should be remembered that in the group of F&A students, there were only 16 students, which is an important limitation for obtaining robust results. Therefore, all students were analyzed together.

Moreover, in order to check for possible gender differences among the students, we compared the responses of men and women. The results, shown in Annex 2, showed significant differences only in the generic competence of organization and planning, where women considered that they had acquired it better than men. On the other hand, women attached greater importance to the ability to analyze and adapt to new situations, as well as to the specific competences of document recognition and interpretation, knowledge of the accounting process, and use of accounting programs. Since the differences were so small, we analyzed the responses of students of both genders together.

In order to compare the perception of students and employers regarding the relevance of the competences, we analyzed the response of both groups for each of the items (competences) included in the questionnaire.

Table 1 shows the assessment of the relevant competences, both from the perspective of students and employers. In the case of the latter, the results are shown both jointly and differentiating between the consulting sector and other types of employers, as well as separating micro-companies from the total.

Comparing the mean scores of each item per group, it should be noted that both students and employers assigned scores above 5 (out of 7) to most of the proposed competences. There were only three that did not reach such a score and, furthermore, students and employers agreed that they were the least relevant: identification of production or service provision costs, application and interpretation of the main economic and financial ratios (profitability, indebtedness, liquidity, etc.), and knowledge of auditing, with the latter being the lowest rated.

From the students' perspective, the competences that they considered to be most relevant when they join positions in the field of accounting are: the interpretation of accounting documents (payrolls, invoices, etc.), software tools, and basic accounting knowledge. Behind these aspects appears the generic competence of adapting to new situations. This is in line with the findings by Arquero et al. (2009) for stu-

Table 1. Descriptive analysis of relevant competences. Perception of students and employers

	STUDENTS		EMPLOYERS						EMPLOYERS			
	BAM and F&A		All		Consultancies		Other companies		Micro-companies		Other companies	
Competence	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1. Ability to organize and plan	6.17	1.11	5.83	1.10	5.84	1.16	5.82	1.05	5.86	1.14	5.79	1.06
2. Ability to work in a team	5.39	1.53	5.91	1.04	5.98	0.95	5.86	1.12	5.92	0.94	5.91	1.15
3. Ability to analyze and synthesize	5.76	1.15	5.80	1.02	5.95	1.06	5.65	0.97	5.86	1.09	5.72	0.93
4. Adaptation to new situations	6.28	1.04	5.76	1.20	5.70	1.30	5.82	1.11	5.76	1.33	5.77	1.04
5. Ability to understand and interpret accounting regulations (GAP, SCA...)	5.35	1.67	5.70	1.36	6.00	1.10	5.43	1.51	5.64	1.35	5.77	1.38
6. Ability to handle the mechanisms of accounting debit and credit with ease	6.02	1.37	6.11	1.21	6.48	0.85	5.77	1.39	6.18	1.07	6.02	1.35
7. Recognition and interpretation of documents (invoices, payroll...)	6.44	0.88	6.09	1.18	6.39	0.75	5.82	1.41	6.00	1.26	6.19	1.08
8. Knowledge of the accounting process of a company's operations (purchasing, sales, payroll...)	6.30	1.02	5.83	1.31	6.16	1.14	5.53	1.39	5.76	1.33	5.91	1.29
9. Knowledge of the accounting process of closing operations (depreciation, stock regularization,...)	5.43	1.73	5.40	1.54	5.70	1.37	5.12	1.64	5.34	1.49	5.47	1.61
10. Knowledge of the items of financial statements (Assets, Liabilities, Expenses...)	5.96	1.44	5.62	1.45	6.00	1.12	5.29	1.63	5.58	1.43	5.67	1.49
11. Knowledge of the reporting value of financial statements	5.15	1.69	5.26	1.50	5.43	1.34	5.10	1.64	5.26	1.54	5.26	1.48
12. Identification of the accounting impact of operations on the company's results and balance sheet	5.19	1.69	5.30	1.55	5.61	1.20	5.02	1.77	5.40	1.58	5.19	1.53
13. Application and interpretation of the main economic and financial ratios (profitability, indebtedness, liquidity...)	4.37	1.81	4.63	1.57	4.55	1.50	4.71	1.63	4.62	1.71	4.65	1.40
14. Identification of the costs of production or provision of services	4.46	1.92	4.75	1.55	4.48	1.61	4.98	1.46	4.58	1.62	4.93	1.45
15. Knowledge of auditing	4.02	1.98	4.08	1.93	4.12	2.10	4.04	1.80	3.84	2.00	4.36	1.83
16. Spreadsheet management	6.36	1.23	6.23	1.02	6.25	0.89	6.21	1.13	6.06	1.17	6.43	0.77
17. Management of accounting software	6.41	1.27	5.59	1.46	5.80	1.23	5.41	1.63	5.44	1.57	5.77	1.32

dents who already had professional experience since computer tools and accounting knowledge, together with taxation, were the most highly valued.

Similarly, the most relevant competences for employers were those of a more technical nature, in addition to the use of new technologies, and Excel in particular. Behind this, there is the ability to handle debit and credit mechanisms with ease, as well as the recognition and interpretation of documents. These competences are particularly relevant for the business consulting sector, which valued them even more highly than spreadsheet handling.

To analyze whether the differences of opinion regarding the importance of the competences between students and employers are significant, a Mann-Whitney test was performed and the results of which are shown in Table 2. The results for employers were also treated jointly and differentiating by type of company, between consultancies and the other types, and by size, between micro-companies and the other types of companies.

As can be seen in Table 2, employers, and specifically consulting firms, gave greater importance than students to the ability to work as part of a team, and this difference is statistically significant. These results coincide with those obtained by Dolce et al. (2020), where it was found that employers considered this competence to be very important, while students assigned less importance to it. However, the findings contrast, to some extent, with those obtained by Arquero et al. (2009), who showed that teamwork is the competence most valued by graduates. However, in adapting to new situations and the ability to organize and plan, it is the students who give the highest value.

As for the specific competences for accounting, students assigned a higher value than companies both to the knowledge of the accounting process of operations and to the recognition and interpretation of documents, noting that this difference appeared fundamentally due to the groups of other companies and micro-companies. It is worth noting that the consultancies valued, more the other types of employers, other accounting aspects such as the ability to understand and interpret accounting regulations, the ability to handle accounting debit and credit mechanisms with ease, and knowledge of closing operations and the items of the financial statements.

However, although it was important for everyone, students attached greater importance to the use of specific accounting software than employers, which is in line with the future competences highlighted by ACCA (2020), which emphasized the importance of technology and digitalization.

The analysis therefore shows that students are aware of the relevant competences for professional positions in the field of accounting, the differences are not significant in many of the competences valued, and even their perception of training requirements is higher than that of the employers themselves. Only the ability to work as part of a team was rated higher by employers, which shows that although graduates consider it important, it does not reach the level of relevance given to it by employers.

The aspects least valued by both parties were the application and interpretation of ratios, the identification of costs, and having knowledge of auditing. These are technical competences that can perhaps be acquired or at least completed through professional activity.

Table 2. Differences in relevant competences: students versus employers

	Stud. -All		Stud. -Consultancies		Stud. -Others		Consultancies-Others		Stud. -Microcomp		Stud. -Others		Microcomp. -Others	
	Mann-Whitney		Mann-Whitney		Mann-Whitney		Mann-Whitney		Mann-Whitney		Mann-Whitney		Mann-Whitney	
Competence	Z	Sig.	Z	Sig.	Z	Sig.	Z	Sig.	Z	Sig.	Z	Sig.	Z	Sig.
1. Ability to organize and plan	-2.10	**0.04**	-1.64	0.11	-2.12	**0.03**	-0.28	0.78	-1.64	0.11	-2.17	**0.03**	-0.48	0.63
2. Ability to work in a team	-1.80	**0.07***	-1.67	**0.09***	-1.37	0.17	-0.32	0.75	-1.46	0.15	-1.58	0.11	-0.34	0.73
3. Ability to analyze and synthesize	-0.06	0.95	-0.87	0.38	-0.93	0.35	-1.73	**0.08***	-0.37	0.72	-0.55	0.58	-0.83	0.41
4. Adaptation to new situations	-2.91	**0.00**	-2.59	**0.01**	-2.38	**0.02**	-0.25	0.81	-2.20	**0.03**	-2.79	**0.01**	-0.43	0.67
5. Ability to understand and interpret accounting regulations (GAP, SCA...)	-0.85	0.40	-1.43	0.15	-0.15	0.88	-1.89	**0.06***	-0.42	0.68	-0.82	0.42	-0.61	0.55
6. Ability to handle the mechanisms of accounting debit and credit with ease	-0.05	0.96	-1.39	0.17	1.08	0.28	-2.55	**0.01**	-0.13	0.90	-0.05	0.96	-0.13	0.89
7. Recognition and interpretation of documents (invoices, payroll...)	-2.06	**0.04**	-0.72	0.47	-2.46	**0.01**	-1.84	**0.07***	-2.12	**0.03**	-1.10	0.28	-0.85	0.40
8. Knowledge of the accounting process of a company's operations (purchasing, sales, payroll...)	-2.27	**0.02**	-0.40	0.69	-3.27	**0.00**	-2.52	**0.01**	-2.31	**0.02**	-1.47	0.14	-0.62	0.53
9. Knowledge of the accounting process of closing operations (depreciation, stock regularization,...)	-0.40	0.69	-0.58	0.56	-1.22	0.22	-1.73	**0.08***	-0.69	0.49	-0.01	0.99	-0.58	0.57
10. Knowledge of the items of financial statements (Assets, Liabilities, Expenses...)	-1.77	**0.08***	-0.49	0.63	-2.62	**0.01**	-2.14	**0.03**	-1.89	**0.06***	-1.28	0.20	-0.49	0.63
11. Knowledge of the reporting value of financial statements	-0.17	0.86	-0.49	0.62	-0.25	0.81	-0.81	0.42	-0.13	0.89	-0.08	0.94	-0.08	0.94
12. Identification of the accounting impact of operations on the company's results and balance sheet	-0.23	0.82	-0.88	0.38	-0.50	0.62	-1.35	0.18	-0.55	0.58	-0.28	0.78	-0.80	0.43
13. Application and interpretation of the main economic and financial ratios (profitability, indebtedness, liquidity...)	-0.75	0.45	-0.35	0.73	-1.00	0.32	-0.73	0.47	-0.74	0.46	-0.63	0.53	-0.15	0.89
14. Identification of the costs of production or provision of services	-0.64	0.53	-0.27	0.79	-1.09	0.27	-1.47	0.14	-0.03	0.97	-0.91	0.37	-0.93	0.35
15. Knowledge of auditing	-0.10	0.92	-0.10	0.92	-0.17	0.86	-0.13	0.90	-0.62	0.53	-0.60	0.55	-1.33	0.18
16. Spreadsheet management	-1.77	**0.08***	-1.56	0.12	-1.66	**0.09***	-0.10	0.92	-2.22	**0.03**	-0.89	0.37	-1.54	0.12
17. Management of accounting software	-4.18	**0.00**	-3.23	**0.00**	-4.23	**0.00**	-0.94	0.35	-4.12	**0.00**	-3.27	**0.00**	-0.95	0.34

(*) Significant difference at 10%.

4.2. Competences acquired by BAM and F&A students

The questionnaire asked both students and employers to rate their perception of the competences acquired or demonstrated (in the case of employers) by the students. In this way, students were asked to rate themselves on their competences and employers were asked to rate the training demonstrated by the students. Table 3 shows the assessment of the competences and skills acquired by the students, both from their own perspective and from that of the employers, considered as a whole, by sector, and by size.

In order to analyze whether the differences in the perceptions of students and employers were statistically significant, we performed the nonparametric Mann-Whitney test, the results of which are shown in Table 4 .

For most of the competences analyzed, the students' assessment was higher than that of employers, and most of the differences were significant. Regarding this optimistic view of the competences acquired, we understand that it constitutes, as indicated by Arquero et al. (2019), an "overconfidence" by the accounting students. Their results only partially coincided with those obtained in our work, particularly regarding the students' self-assessment of their generic or non-technical skills, where the only significant difference between the perceptions of students and employers was seen in the capacity for analysis and synthesis since the students' perception of the acquisition of this skill was higher than that perceived by employers. This was one of the most relevant generic competences for university graduates (Kavanagh & Drennan, 2008).

In our work, this optimism was also evident in most of the technical competences analyzed, with there being statistically significant differences. The results show that for much of the knowledge acquired in accounting, students showed higher ratings than those given by employers. This is true for the following areas of knowledge: the ability to understand and interpret accounting regulations; the ability to handle accounting debit and credit mechanisms with ease; knowledge of the accounting process of closing operations (depreciation, regularization of inventories, etc.); and the identification of the accounting impact of operations on a company's results and balance sheet.

By segments, the companies that were most critical with respect to the specific accounting competences acquired by the students were consulting firms and micro-companies, showing significant differences when compared with the score given by the other types of companies in some cases.

However, a less valued aspect by the students was their competences to understand and identify invoices, payrolls. . . , perhaps because this was their first contact with these types of accounting documents.

The competence that presented the greatest difference between students and companies was the handling of computer programs, which was considered in all previous studies as one of the most relevant (Sithole, 2015). These findings therefore confirm the deficiencies in the use of new technologies, and in particular accounting software, which was already noted by Senik et al. (2013). It should be noted that employers' evaluation of the management of these programs by graduates was low, especially in consulting firms and micro-companies, although it should also be highlighted that it was much higher than that of the students themselves. However, the adaptation of students to these programs was usually rapid, which may explain why employers had given them a higher rating than students.

In short, the previous results show that there are significant differences in the perception of some competences ac-

Table 3. Descriptive analysis of the acquired competences. Perception of students and employers

	STUDENTS		EMPLOYERS						EMPLOYERS			
	BAM and F&A		All		Consultancies		Other companies		Micro-companies		Other companies	
Competence	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1. Ability to organize and plan	5.17	1.08	4.86	1.39	4.67	1.52	5.02	1.25	4.73	1.54	5.00	1.20
2. Ability to work in a team	5.56	1.21	5.32	1.10	5.26	1.12	5.38	1.02	5.33	1.08	5.30	1.15
3. Ability to analyze and synthesize	5.48	1.24	4.87	1.44	4.72	1.59	5.00	1.29	4.75	1.50	5.00	1.38
4. Adaptation to new situations	4.43	1.46	4.78	1.44	4.51	1.56	5.02	1.28	4.56	1.54	5.02	1.28
5. Ability to understand and interpret accounting regulations (GAP, SCA...)	5.46	1.24	4.88	1.41	4.63	1.48	5.10	1.31	4.56	1.50	5.23	1.21
6. Ability to handle the mechanisms of accounting debit and credit with ease	5.76	1.20	5.10	1.43	4.77	1.57	5.41	1.22	4.83	1.57	5.40	1.21
7. Recognition and interpretation of documents (invoices, payroll...)	3.31	1.61	4.64	1.60	4.09	1.73	5.13	1.31	4.33	1.77	4.98	1.34
8. Knowledge of the accounting process of a company's operations (purchasing, sales, payroll...)	5.11	1.31	4.66	1.46	4.33	1.60	4.96	1.27	4.40	1.58	4.95	1.27
9. Knowledge of the accounting process of closing operations (depreciation, stock regularization,...)	5.46	1.36	4.54	1.49	4.21	1.53	4.83	1.39	4.29	1.58	4.81	1.33
10. Knowledge of the items of financial statements (Assets, Liabilities, Expenses...)	6.00	1.18	4.95	1.45	4.67	1.46	5.19	1.41	4.73	1.58	5.19	1.26
11. Knowledge of the reporting value of financial statements	5.59	1.19	4.60	1.51	4.30	1.60	4.88	1.39	4.35	1.68	4.88	1.26
12. Identification of the accounting impact of operations on the company's results and balance sheet	5.46	1.31	4.60	1.54	4.30	1.58	4.88	1.47	4.38	1.67	4.86	1.36
13. Application and interpretation of the main economic and financial ratios (profitability, indebtedness, liquidity...)	5.96	0.97	4.52	1.47	4.28	1.48	4.73	1.44	4.33	1.64	4.72	1.24
14. Identification of the costs of production or provision of services	5.00	1.36	4.29	1.52	4.05	1.67	4.50	1.35	4.00	1.71	4.60	1.22
15. Knowledge of auditing	4.00	1.55	3.80	1.59	3.40	1.65	4.13	1.48	3.39	1.73	4.24	1.30
16. Spreadsheet management	5.07	1.78	5.33	1.49	5.35	1.38	5.32	1.60	5.35	1.44	5.31	1.57
17. Management of accounting software	1.85	1.32	4.04	1.81	3.63	2.05	4.42	1.50	3.83	1.98	4.28	1.59

Table 4. Differences in the acquired competences: students versus employers

	Stud. -All		Stud. -Consultancies		Stud. -Others		Consultancies-Others		Stud. -Microcomp		Stud. -Others		Microcomp.-Others	
	Mann-Whitney		Mann-Whitney		Mann-Whitney		Mann-Whitney		Mann-Whitney		Mann-Whitney		Mann-Whitney	
Competence	Z	Sig.	Z	Sig.	Z	Sig.	Z	Sig.	Z	Sig.	Z	Sig.	Z	Sig.
1. Ability to organize and plan	-1.25	0.21	-1.63	0.11	-0.69	0.49	-0.97	0.33	-1.42	0.16	-0.84	0.40	-0.73	0.47
2. Ability to work in a team	-1.54	0.12	-1.38	0.17	-1.14	0.26	-0.44	0.66	-0.27	0.20	-1.24	0.22	-0.03	0.98
3. Ability to analyze and synthesize	-2.62	**0.01**	-2.45	**0.01**	-1.98	**0.05**	-0.78	0.43	-0.26	**0.01**	-1.79	**0.07***	-0.77	0.44
4. Adaptation to new situations	-1.31	0.19	-0.33	0.75	-1.96	**0.05**	-1.45	0.15	-0.46	0.65	-1.95	**0.05**	-1.39	0.16
5. Ability to understand and interpret accounting regulations (GAP, SCA...)	-2.67	**0.01**	-3.19	**0.00**	-1.65	**0.1***	-1.69	**0.09***	-3.45	**0.00**	-1.24	0.22	-2.30	**0.02**
6. Ability to handle the mechanisms of accounting debit and credit with ease	-2.80	**0.01**	-3.22	**0.00**	-1.48	0.14	-1.84	**0.07***	-3.08	**0.00**	-1.51	0.13	-1.68	**0.09***
7. Recognition and interpretation of documents (invoices, payroll...)	-4.51	**0.00**	-2.17	**0.03**	-5.50	**0.00**	-3.23	**0.00**	-2.95	**0.00**	-4.93	**0.00**	-1.86	**0.06***
8. Knowledge of the accounting process of a company's operations (purchasing, sales, payroll...)	-2.08	**0.04**	-2.73	**0.01**	-0.90	0.37	-1.87	**0.06***	-2.55	**0.01**	-0.94	0.35	-1.48	0.14
9. Knowledge of the accounting process of closing operations (depreciation, stock regularization,...)	-3.92	**0.00**	-4.19	**0.00**	-2.67	**0.01**	-2.27	**0.02**	-4.01	**0.00**	-2.75	**0.01**	-2.13	**0.03**
10. Knowledge of the items of financial statements (Assets, Liabilities, Expenses...)	-4.79	**0.00**	-4.92	**0.00**	-3.51	**0.00**	-1.73	**0.08***	-4.61	**0.00**	-3.73	**0.00**	-1.35	0.18
11. Knowledge of the reporting value of financial statements	-4.32	**0.00**	-4.40	**0.00**	-3.18	**0.00**	-1.71	**0.09***	-4.18	**0.00**	-3.31	**0.00**	-1.47	0.14
12. Identification of the accounting impact of operations on the company's results and balance sheet	-3.48	**0.00**	-3.91	**0.00**	-2.23	**0.03**	-1.73	**0.08***	-3.63	**0.00**	-2.40	**0.02**	-1.25	0.21
13. Application and interpretation of the main economic and financial ratios (profitability, indebtedness, liquidity...)	-5.91	**0.00**	-5.50	**0.00**	-4.62	**0.00**	-1.62	0.11	-5.22	**0.00**	-4.84	**0.00**	-1.07	0.29
14. Identification of the costs of production or provision of services	-2.87	**0.00**	-2.91	**0.00**	-2.07	**0.04**	-1.17	0.24	-3.14	**0.00**	-1.75	**0.08***	-1.79	**0.07***
15. Knowledge of auditing	-0.93	0.35	-1.91	**0.06**	-0.05	0.96	-2.09	**0.04**	-2.00	**0.05**	-0.35	0.73	-2.51	**0.01**
16. Spreadsheet management	-0.58	0.56	-0.23	0.82	-0.49	0.62	-0.23	0.82	-3.33	0.74	-0.40	0.69	-0.04	0.97
17. Management of accounting software	-6.71	**0.00**	-4.74	**0.00**	-6.87	**0.00**	-2.19	**0.03**	-5.41	**0.00**	-6.33	**0.00**	-1.33	0.19

(*) Significant difference at 10%.

quired by employers and students. Sometimes students value the competences acquired more highly than employers, and sometimes the opposite is true. There is therefore a lack of consensus between students and employers on most competences. Some risks for improving competences in the technical aspects of accounting could even be due to the very preconception that students have of accounting during the first years of their courses. Students may perceive accounting to be a more practical than theoretical subject and may give it a more certain than ambiguous character, believing it is not subject to judgments and interpretations (Arquero & Fernández-Polvillo, 2019) and having a clear motivation for those aspects that can be useful for later practical application.

4.3. Is there a competence gap?

In this section, we tried to analyze the possible differences between the importance given to competences and the levels demonstrated or acquired by students, which will allow us to identify a gap in the education of students, both from the perspective of students and employers.

If we focus on the students, the scores obtained in the acquired competences were compared with the required levels, according to their own opinion. The results of the Mann-Whitney Test, contained in Table 5, showed significant differences in several of the competences analyzed.

In particular, and in line with the work carried out by Riera et al. (2017), there was a gap in the transversal competences of organization and planning and in adapting to new situations, given that for students both skills were key for job performance. There was also a gap in several of the technical competences identified, such as the ability to handle accounting debit and credit mechanisms with ease, recognize and interpret documents, and have a basic knowledge regarding the accounting process of a company's operations. However, students considered that they had higher competences than those relevant in the area of financial analysis. This may be due to the fact that they were students who were just beginning to perform work activities and probably financial analysis tasks were more specialized and were for employees with a certain level of experience.

The competences in which the greatest gap was observed were those related to the use of computer programs, since they considered their training in the use of accounting software to be insufficient. There were also some deficiencies in the use of spreadsheets, from the students' point of view.

In short, the results show that the students' perception of the learning acquired does not always correspond to what the students consider to be required of them, and there is therefore a gap in the competences and skills of those who are starting out in the profession. These results note that students are aware of the shortcomings and, therefore, confirm the findings by Chaffer & Webb (2017) for the United Kingdom.

Moreover, from the employers' perspective, it was found that there is a competences gap, as can be seen in Table 6. The differences between acquired and relevant competences are statistically significant in all areas assessed, with two exceptions.

Table 5. Gap in the acquired and relevant competences from the students' perspective

	Mann-Whitney	
Competence	Z	Sig.
1. Ability to organize and plan	-4.92	**0.00**
2. Ability to work in a team	-0.23	0.82
3. Ability to analyze and synthesize	-1.25	0.21
4. Adaptation to new situations	-6.65	**0.00**
5. Ability to understand and interpret accounting regulations (GAP, SCA...)	-0.34	0.73
6. Ability to handle the mechanisms of accounting debit and credit with ease	-1.78	**0.08***
7. Recognition and interpretation of documents (invoices, payroll...)	-8.09	**0.00**
8. Knowledge of the accounting process of a company's operations (purchasing, sales, payroll...)	-5.29	**0.00**
9. Knowledge of the accounting process of closing operations (depreciation, stock regularization,...)	-0.47	0.64
10. Knowledge of the items of financial statements (Assets, Liabilities, Expenses...)	-0.61	0.54
11. Knowledge of the reporting value of financial statements	-0.89	0.37
12. Identification of the accounting impact of operations on the company's results and balance sheet	-0.51	0.61
13. Application and interpretation of the main economic and financial ratios (profitability, indebtedness, liquidity...)	-4.87	**0.00**
14. Identification of the costs of production or provision of services	-1.28	0.20
15. Knowledge of auditing	-0.19	0.85
16. Spreadsheet management	-4.51	**0.00**
17. Management of accounting software	-8.71	**0.00**

(*) Significant difference at 10%.

Regarding transversal competences, it was found that employers detected insufficient skills in the ability to organize and plan, teamwork, in the ability to analyze and synthesize, and also in the ability to adapt to new situations. These findings were consistent with those obtained in Montoro et al. (2012), which showed that there are still some areas of skills that diverge from the employers' perspective, such as the team skills, leadership potential, verbal communication, and interpersonal skills of graduates.

Moreover, there were some differences between the accounting knowledge and skills acquired by students and those relevant to the development of the internship activity in the following aspects:

- Ability to understand and interpret accounting regulations (General Accounting Plan (GAP), Capital Companies Act (CCA)).
- Ability to handle the mechanisms of accounting debit and credit with ease.
- Recognition and interpretation of documents (invoices, payroll,...)
- Knowledge of the accounting process of a company's operations and closing operations.
- Knowledge of the items of financial statements and their reporting value.

Table 6. Gap in the acquired and relevant competences from the employers' perspective

	All Employers		Consultancies		Other companies		Micro-companies		Other companies	
	Mann-Whitney		Mann-Whitney		Mann-Whitney		Mann-Whitney		Mann-Whitney	
Competence	Z	Sig.	Z	Sig.	Z	Sig.	Z	Sig.	Z	Sig.
1. Ability to organize and plan	-4.86	**0.00**	-3.67	**0.00**	-3.19	**0.00**	-3.75	**0.00**	-2.88	**0.00**
2. Ability to work in a team	-3.76	**0.00**	-2.82	**0.01**	-2.50	**0.01**	-2.63	**0.01**	-2.74	**0.01**
3. Ability to analyze and synthesize	-4.55	**0.00**	-3.75	**0.00**	-2.58	**0.01**	-3.76	**0.00**	-2.35	**0.02**
4. Adaptation to new situations	-4.88	**0.00**	-3.80	**0.00**	-3.09	**0.00**	-3.10	**0.00**	-2.66	**0.01**
5. Ability to understand and interpret accounting regulations (GAP, SCA...)	-4.34	**0.00**	-4.55	**0.00**	-1.56	0.12	-3.75	**0.00**	-2.20	**0.03**
6. Ability to handle the mechanisms of accounting debit and credit with ease	-5.20	**0.00**	-5.68	**0.00**	-1.66	**0.1***	-4.59	**0.00**	-2.55	**0.01**
7. Recognition and interpretation of documents (invoices, payroll...)	-6.41	**0.00**	-5.87	**0.00**	-2.92	**0.00**	-4.78	**0.00**	-4.04	**0.00**
8. Knowledge of the accounting process of a company's operations (purchasing, sales, payroll...)	-5.56	**0.00**	-5.29	**0.00**	-2.44	**0.02**	-4.42	**0.00**	-3.27	**0.00**
9. Knowledge of the accounting process of closing operations (depreciation, stock regularization,...)	-3.92	**0.00**	-4.39	**0.00**	-1.22	0.22	-3.46	**0.00**	-2.03	**0.04**
10. Knowledge of the items of financial statements (Assets, Liabilities, Expenses...)	-3.50	**0.00**	-4.29	**0.00**	-0.74	0.46	-2.85	**0.00**	-1.89	**0.06***
11. Knowledge of the reporting value of financial statements	-2.98	**0.00**	-3.29	**0.00**	-0.98	0.33	-2.71	**0.01**	-1.27	0.21
12. Identification of the accounting impact of operations on the company's results and balance sheet	-3.40	**0.00**	-4.17	**0.00**	-0.80	0.42	-3.33	**0.00**	-1.13	0.26
13. Application and interpretation of the main economic and financial ratios (profitability, indebtedness, liquidity...)	-0.63	0.53	-0.85	0.39	-0.16	0.87	-0.85	0.34	-0.42	0.68
14. Identification of the costs of production or provision of services	-2.02	**0.04**	-1.13	0.26	-1.77	**0.08***	-1.71	**0.09***	-1.07	0.29
15. Knowledge of auditing	-0.89	0.37	-1.74	**0.08***	-0.32	0.75	-1.03	0.30	-0.06	0.96
16. Spreadsheet management	-4.57	**0.00**	-3.26	**0.00**	-3.26	**0.00**	-2.80	**0.01**	-3.77	**0.00**
17. Management of accounting software	-5.83	**0.00**	-4.88	**0.00**	-3.36	**0.00**	-4.03	**0.00**	-4.01	**0.00**

(*) Significant difference at 10%.

- Ability to identify the accounting impact of operations on a company's results and financial position.
- Identification of the costs of production or provision of services.

Employers also considered there to be a gap in the handling of acquired technologies, such as the use of accounting programs or spreadsheets, with this having been rated as very relevant.

Therefore, as it can be seen from the employers' perspective, there is a gap in the competences of graduates entering the labor market, both in terms of the generic and personal skills and also regarding their knowledge of accounting. It is in the latter where employers perceive the greatest dissociation between the competences acquired by students and those required for professional development in the field of accounting. This is in line with findings in previous work showing the existence of a gap between the competences required and those acquired by students (Jackling & De Lange, 2009; Jones, 2014; Sithole, 2015).

However, when organizing the employers by sector, we found how the gap in accounting competences is mainly evident in the sector of consulting firms. For the other types of companies, the gap is reduced in the case of accounting competences.

When classifying the companies by size, there is hardly any difference between the opinion of the employers of the micro-companies and those of other types of companies. Differences were only found in the skills relating to the knowledge of the reporting value of financial statements, the identification of the accounting impact of operations on a company's results and balance sheet, and the identification of production or service provision costs. In these three types of competences, it is the micro-companies that show disagreement between what the students should know and what they have actually learned.

5. Conclusions

The orientation of the learning process of European universities to a competence-based model has brought about important changes. In the field of accounting, the process focuses on the acquisition of competences by students, which is embodied in the attitudes, abilities, and skills acquired during their education, which will enable them to adapt to a changing professional context. There are several studies in the literature that highlight the existence of differences between the competences acquired and those that would be desirable.

This paper analyzes the perception of both students and employers regarding the relevant and acquired competences, thus contributing to the literature on competences and the gaps in the university education of accounting students. The main contribution of the paper lies in the joint and comparative study of the opinion of students and employers on the most relevant competences for each other, as well as the level of acquisition of these competences, since these aspects had previously been addressed separately. This is therefore the first study carried out in Spain in which both perspectives are compared. Another important novelty of the work is that the study includes both the so-called generic competences and those specific to accounting, whereas most of the previous works carried out in Spain have dealt with only the so-called generic competences. Furthermore, the separation of employers by activity and by size, differentiating between companies in the consulting sector, as well as small or micro-companies from other types of companies in the sample, shows that the characteristics of the employer also condition the perception of desirable competences.

The results obtained from a survey of both groups show that there is considerable consensus between students and employers, especially with the consulting firms, regarding the skills relevant to job performance, and only the ability to work as part of a team is rated less highly by graduates than by employers. However, there are significant differences between the perceptions of students and employers regarding the competences that students acquire in their university education, as in most cases students assign higher scores, which confirms and extends the results found by Arquero et al. (2019) for UK students, in relation to the overconfidence that students perceive regarding the competences they possess.

Likewise, the students surveyed considered that there is a certain misalignment between the competences they have acquired and those they are required to perform the job in some aspects, having a somewhat pessimistic outlook regarding their abilities and skills with respect to those required of them.

Employers also show the existence of a gap in the competences of university graduates, since in their opinion the level acquired in generic competences by students is lower than what they consider adequate. There are also differences in the level acquired for technical or specific accounting competences, with respect to what is considered desirable. The score was higher in virtually all knowledge aspects related to accounting matters, such as handling regulations, accounting documents, and a company's accounting process with ease.

This gap between required and acquired skills had already been noted in some previous works for other countries and contexts (Sithole, 2015; Association of Accountants and Financial Professional in Business, 2016) and highlights the convenience of carrying out a continuous monitoring and adaptation of competences to the demands of the labor market. Therefore, an important implication of the findings is the need to not only maintain a dialogue between academics and employers to unify the desirable competences for graduates but also to establish mechanisms to increase the academic performance of students, so as to increase their level of acquired skills and competences. Based on this evidence, it is necessary for future research to identify and evaluate the most effective types of educational interventions to narrow this gap.

This exploratory work contributes two relevant findings to the literature: first, there is not a complete match between the education acquired and that which is considered relevant by employers, although this difference is also influenced by the characteristics of the receiving companies. This highlights the difficulties in achieving consensus on the profile of future professionals, especially in terms of technical competences. One implication of this is that the working groups of scholars and professionals should be broad enough to include professionals from different sectors and activities. A second conclusion is that students are pessimistic about their adaptation to the demands of companies, but are nevertheless overconfident about the skills they have acquired. Teachers and academics must therefore continue with their challenge to achieve adequate performance from their students so that they acquire competences at desirable levels. However, students must also become aware that they are an active part of the learning process and must therefore increase their motivation and work to achieve the competences.

Finally, we would like to outline that this work is not without limitations, and therefore its findings must be interpreted in the context studied. Firstly, the sample considered only students and employers from one university, and, as such, the findings cannot be generalized to all university students in Spain. Secondly, since these students are undergoing internship programs, it is possible that their opinion was conditioned by this situation, so it would be advisable to extend the study to students with employment contracts and who, therefore, have more experience and greater responsibilities in order to assess the relevant and acquired competences. Nevertheless, the findings represent an important contribution to the debate on the competence gap, and future research should analyze to what extent this problem can be generalized to other universities and contexts in order to highlight the relevance of introducing changes in the learning process.

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Conflict of interests

The authors declare no conflict of interests.

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Annex 1. Difference by grade

	Relevant				Differences		Acquired				Differences	
	BAM		F&A		Mann-Whitney		BAM		F&A		Mann-Whitney	
Competence	Mean	SD	Mean	SD	Z	Sig.	Mean	SD	Mean	SD	Z	Sig.
1. Ability to organize and plan	6.13	1.21	6.29	0.85	-0.24	0.81	5.32	1.02	4.88	1.17	-1.31	0.19
2. Ability to work in a team	5.32	1.51	5.59	1.58	-0.78	0.44	5.68	0.99	5.24	1.56	-0.97	0.33
3. Ability to analyze and synthesize	5.63	1.20	6.06	0.97	-1.12	0.23	5.61	1.22	5.18	1.24	-1.34	0.18
4. Adaptation to new situations	6.32	1.02	6.18	1.07	-0.52	0.60	4.55	1.50	4.12	1.32	-1.09	0.27
5. Ability to understand and interpret accounting regulations (GAP, SCA...)	5.29	1.64	5.59	1.77	-0.87	0.38	5.63	1.15	5.18	1.42	-1.37	0.17
6. Ability to handle the mechanisms of accounting debit and credit with ease	6.05	1.33	5.94	1.43	-0.25	0.80	5.84	1.13	5.53	1.33	-0.89	0.37
7. Recognition and interpretation of documents (invoices, payroll...)	6.61	0.72	6.00	1.12	**-2.06**	**0.04**	3.29	1.80	3.35	1.06	-0.48	0.63
8. Knowledge of the accounting process of a company's operations (purchasing, sales, payroll...)	6.32	0.99	6.24	1.09	-0.54	0.81	5.16	1.35	5.00	1.23	-0.64	0.52
9. Knowledge of the accounting process of closing operations (depreciation, stock regularization,...)	5.24	1.81	5.88	1.45	-1.29	0.20	5.53	1.31	5.35	1.46	-0.38	0.71
10. Knowledge of the items of financial statements (Assets, Liabilities, Expenses...)	6.00	1.39	5.94	1.56	-0.02	0.98	6.13	1.14	5.76	1.25	-1.19	0.23
11. Knowledge of the reporting value of financial statements	4.92	1.75	5.71	1.40	-1.56	0.12	5.79	1.07	5.18	1.33	**-1.82**	**0.07***
12. Identification of the accounting impact of operations on the company's results and balance sheet	5.00	1.72	5.65	1.54	-1.43	0.15	5.63	1.28	5.12	1.32	-1.59	0.11
13. Application and interpretation of the main economic and financial ratios (profitability, indebtedness, liquidity...)	4.18	1.75	4.76	1.89	-1.17	0.24	6.18	0.73	5.41	1.23	**-2.28**	**0.02**
14. Identification of the costs of production or provision of services	4.21	1.95	5.12	1.73	-1.67	0.10	5.21	1.14	4.53	1.66	-1.23	0.19
15. Knowledge of auditing	3.78	1.95	4.71	2.02	-1.54	0.13	3.89	1.59	4.29	1.45	-0.87	0.39
16. Spreadsheet management	6.27	1.33	6.59	0.94	-1.24	0.22	5.13	1.91	5.06	1.52	-0.57	0.57
17. Management of accounting software	6.50	1.03	6.24	1.68	-0.43	0.67	1.82	1.35	1.88	1.27	-0.58	0.67

(*) Significant difference at 10%.

Annex 2. Difference by gender

	Relevant				Differences		Acquired				Differences	
	Female		Male		Mann-Whitney		Female		Male		Mann-Whitney	
Competence	Mean	SD	Mean	SD	Z	Sig.	Mean	SD	Mean	SD	Z	Sig.
1. Ability to organize and plan	6.27	1.28	6.15	0.79	**-1.81**	**0.07***	5.42	1.06	4.81	1.01	**-1.92**	**0.05**
2. Ability to work in a team	5.39	1.71	5.41	1.22	-0.53	0.60	5.64	1.14	5.41	1.30	-0.63	0.53
3. Ability to analyze and synthesize	5.97	1.19	5.46	1.01	**-2.23**	**0.03**	5.58	1.30	5.32	1.13	-1.10	0.27
4. Adaptation to new situations	6.46	1.00	6.00	1.02	**-2.12**	**0.03**	4.36	1.60	4.50	1.22	-0.16	0.87
5. Ability to understand and interpret accounting regulations (GAP, SCA...)	5.52	1.68	5.18	1.68	-1.07	0.28	5.58	1.35	5.36	1.09	-1.10	0.27
6. Ability to handle the mechanisms of accounting debit and credit with ease	6.24	1.17	5.68	1.55	-1.39	0.17	5.85	1.37	5.59	0.85	-1.60	0.11
7. Recognition and interpretation of documents (invoices, payroll...)	6.67	0.54	6.05	1.17	**-1.84**	**0.07***	3.30	1.79	3.31	1.29	-0.28	0.78
8. Knowledge of the accounting process of a company's operations (purchasing, sales, payroll...)	6.46	0.94	6.05	1.09	**-1.74**	**0.08***	5.12	1.43	5.09	1.11	-0.39	0.69
9. Knowledge of the accounting process of closing operations (depreciation, stock regularization,...)	5.42	1.97	5.46	1.30	-0.74	0.46	5.63	1.41	5.23	1.23	-1.56	0.12
10. Knowledge of the items of financial statements (Assets, Liabilities, Expenses...)	6.06	1.39	5.86	1.52	-0.43	0.67	5.94	1.39	6.14	0.77	-0.17	0.87
11. Knowledge of the reporting value of financial statements	5.18	1.78	5.14	1.55	-0.29	0.77	5.64	1.25	5.55	1.10	-0.76	0.45
12. Identification of the accounting impact of operations on the company's results and balance sheet	5.21	1.87	5.18	1.40	-0.53	0.60	5.36	1.43	5.64	1.09	-0.55	0.59
13. Application and interpretation of the main economic and financial ratios (profitability, indebtedness, liquidity...)	4.46	2.03	4.23	1.41	-0.75	0.45	6.00	0.97	5.86	0.99	-0.57	0.57
14. Identification of the costs of production or provision of services	4.52	2.11	4.46	1.63	-0.32	0.75	5.03	1.51	4.96	1.09	-0.65	0.52
15. Knowledge of auditing	3.91	2.21	4.32	1.67	-0.61	0.55	3.97	1.47	4.09	1.69	-0.46	0.65
16. Spreadsheet management	6.47	1.22	6.23	1.23	-0.82	0.42	5.12	1.82	5.09	1.77	-0.17	0.87
17. Management of accounting software	6.79	0.60	5.86	1.73	**-2.78**	**0.01**	1.79	1.50	1.91	1.02	-1.26	0.21

(*) Significant difference at 10%.