

# CONCEPTIONS OF ACCOUNTING AND EXPECTATIONS OF LEARNING ACCOUNTING

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**Abstract:** The current study reports on the results of research into introductory accounting students' conceptions of accounting and expectations of learning the subject of accounting within Portuguese higher education. The results validate the use of the ELAcc inventory in Portuguese higher education and are in line with the literature that argues that subject area has an influence on aspects of learning. In particular, they point out the differences between specialist and non-specialist students' conceptions of accounting and their expectations of learning accounting. This circumstance highlights the need to consider the different programmes in which introductory accounting is taught.

**Key words:** introductory accounting; expectations of learning accounting; conceptions of accounting; subject area.

## 1. Introduction

Educational psychology research focuses on teaching and learning in higher education and provides general guidance concerning student learning. By drawing on "pragmatic educational theories for describing the types of learning found in classrooms" (Entwistle and Smith, 2002, p. 323), aspects of learning and studying in higher education have been investigated through generic models of student learning. For example, the students' approaches to learning (SAL) conceptual framework pro-

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vided evidence that learning processes are context-dependent (e.g. Trigwell *et al.*, 2012). According to Entwistle (1997, p. 133), "an approach to learning can surely be accepted as to some extent stable – as a habitual response to learning situations which a student commonly meets - and yet also variable in response to teaching, learning environment, and assessment demands in a specific course or on a particular occasion". In addition, there are disciplinary differences relating to teaching and learning. Indeed, the literature argues that "different disciplinary contexts will each, to some extent, possess their own norms, languages and practices" (McCunne and Hounsell, 2005, p. 257). That is the case for the accounting disciplinary area itself. As explained by Lucas and Meyer (2005, p. 179), "accounting is a subject that comprises many component specialisms, each of which provides a particular teaching context in its own right". Therefore, students' perceptions and conceptions of the subject matter they study represent a key aspect within their perceptions of the learning context (e.g. Prosser *et al.*, 1994; Ramsden 1997; McCunne and Hounsell, 2005; Lucas and Meyer, 2005; Duff and Mladenovic, 2014).

Within the accounting disciplinary context, the accounting change and the demand for better learning environments has become a major concern (e.g. Duff, 1999; Byrne *et al.*, 2009). This circumstance has had a strong impact on accounting education research, and much relevant research has been carried out focusing on introductory accounting (e.g. Oswick and Barber, 1998; Saemann and Crooker, 1999; Lucas, 2000, 2002; Byrne *et al.*, 2002; English *et al.*, 2004; Byrne and Flood, 2005; Lucas and Meyer, 2005; Ferguson *et al.*, 2005; Tan and Laswad, 2006, 2009; Bealing *et al.*, 2009; Palm and Bisman, 2010; Krom and Williams, 2011; Barratt *et al.*, 2011; Duff and Mladenovic, 2014).

In particular, there is a well-established body of work within introductory accounting based on the students' approaches to learning theoretical framework (e.g. Lucas, 1998, 2001 2002; Byrne and Flood, 2004; Byrne *et al.*, 1999, 2002, 2009; Lucas, 2000; Mladenovic, 2000; Lucas and Meyer, 2004, 2005; Teixeira *et al.*, 2013a, 2015). Similarly, the importance of the learning environment/context has been acknowledged by several authors (e.g. Lucas, 2000, 2001; Lucas and

Meyer, 2005; Lucas and Mladenovic, 2009). Lucas and Meyer (2005, p. 180) examined introductory accounting “students’ conceptions of accounting, their motivations and the extent to which these might impact upon approaches to learning”. Their findings question “whether introductory accounting is appropriately regarded as a generic unit with learning outcomes that are equally applicable to all students” (Lucas and Meyer, 2005, p. 195).

Hence, research acknowledges the need for future research to further investigate aspects of learning within introductory accounting subjects (e.g. Lucas and Meyer, 2005; Byrne and Flood, 2008; Duff and Mladenovic, 2014).

The current study reports on the results of research into introductory accounting students’ conceptions of accounting and expectations of learning the subject of accounting within Portuguese higher education. This is an updated version of a previous essay put forward in Teixeira (2013). The paper is structured as follows. The literature on students’ approaches to learning is reviewed with a focus on the role of conceptions of accounting and expectations of learning accounting (Section 2). Then, the empirical study is presented along with the research methodology and the analysis of the results (Section 3). Finally, concluding remarks and suggestions for future research are discussed (Section 4).

## **2. Conceptions of accounting and expectations of learning accounting**

Students adjust their approaches to learning and studying to the perceptions they hold regarding task requirements and assessment demands (e.g. Flood and Wilson, 2008). Accounting graduates are expected to develop knowledge and competencies associated with high quality learning (Byrne *et al.*, 2002). Therefore, the literature highlights the need to encourage deep patterns of learning in higher education (e.g. Duff, 1999, 2002). This seems to be more likely to occur if accounting students favour deep approaches to learning and studying (e.g. Flood and Wilson, 2008).

According to Lucas and Meyer (2005, p. 183) “students start a course of study already possessing certain conceptions or prior knowledge. This includes conceptions of learning, epistemological be-

liefs, and conceptions about the subject." Thus, within introductory accounting there is a stream of research aiming at identifying students' conceptions of accounting and expectations of learning accounting (e.g. Lucas and Meyer, 2004, 2005; Duff *et al.*, 2010; Duff and Mladenovic, 2014). Among other conclusions, the studies point out that the power (and impact) of negative perspectives (preconceptions/stereotypes) of accounting should be taken into consideration, especially regarding non-accounting students (e.g. Lucas and Meyer, 2004). That is, one should consider the existence of strong emotions about the learning of accounting. Indeed, non-accounting students tend to feel anxious about the learning of accounting and see it as something problematic; whereas accounting students feel more enthusiastic about it and possess more positive conceptions of accounting related to an inherent interest in the subject of accounting (Lucas and Meyer, 2004). This is the pattern of behaviour that students are expected to display/show when learning introductory accounting.

These findings are of great importance for accounting education and should be taken into consideration alongside with recent findings reported in educational psychology literature on student learning. Indeed, recently, Trigwell *et al.* (2012, p. 811) provided evidence that "students who more strongly experience positive emotions, such as hope and pride, and more weakly experience negative emotions (such as anger, boredom, anxiety and shame), are likely to be adopting more of a deep approach to learning. In comparison, students who describe more of a surface approach to learning are more likely to report an experience of lower positive emotions and higher negative emotions." In addition, the approaches to learning theoretical framework argues that "students interpret, or make meaning of, their educational experience as a result of their assumptions about knowledge (and the subject) and also in relation to their motivations"; thus, research should further examine students' conceptions of the subject matter and its impact on their approaches to learning within specific settings (Lucas and Meyer, 2005, p. 180). In fact, most studies within accounting education have used generic inventories (e.g. ASSIST) in order to assess how students

learn and study. Nevertheless, evidence shows the existence of a significant relationship between students' conceptions of accounting (and motivations for learning it) and specific learning processes. For example, based on phenomenographic research, "Lucas (2001) identifies features that are characteristic of the deep and surface approaches to learning within introductory accounting" (Lucas and Meyer, 2005, p. 180). The contextual features surrounding these approaches to learning "include student conceptions of accounting and motivations towards its study." (Lucas and Meyer, 2005, p. 181).

The description of introductory accounting students' experiences of learning accounting and their expectations about the learning of accounting through the use of qualitative methods is indeed of great interest (e.g. Lucas and Meyer, 2005, Flood and Wilson, 2008). Nevertheless, the use of inventories/questionnaires enables researchers to reach a greater number of students and, thus, find variations in a statistical sense in order to identify patterns of learning behaviour within introductory accounting.

### **3. Empirical study**

In this section the aim of the study will be presented followed by the information relating to the research instrument and data collection, as well as the descriptive analysis. Then, the results and statistical analyses subsection will focus on the reliability and validity of the Expectations of Learning Accounting (ELAcc) inventory within introductory accounting in Portuguese higher education, and describe students' conceptions of accounting and expectations of learning accounting along with the analysis of the impact of the subject area.

#### **3.1. The purpose of the study**

The current study is part of a larger study into introductory accounting students' learning and studying behaviour within Portuguese higher education (Teixeira, 2013). It specifically examines Portuguese introductory accounting students' conceptions of the subject of accounting and their expectations about learning accounting.

The study examines data collected from a sample of 683 students at five higher education institutions (universities and polytechnics,

both public and private) in Portugal. Introductory accounting is taught to large numbers of students both specialists and non-specialists. In this study, introductory accounting encompasses courses such as elementary accounting and introductory financial accounting. These courses are taught in a variety of programmes, namely, accounting, economics, management, international business, public administration, marketing, sports management and hotel management.

There is evidence that studying and learning behaviour varies according to subject area (e.g. Entwistle, 2004; McCunne and Hounsell, 2005). Thus, the study also examines whether there is any impact on students' conceptions of (and expectations of learning) accounting according to subject area. In order to give a better insight into subject area specificity, the analysis focused on three disciplinary areas: (i) accounting, (ii) economics and management, and (iii) other programmes/courses.

### 3.2. Research instrument and data collection

Drawing on phenomenographic research (e.g. Asworth and Lucas, 2000; Lucas, 2001), the ELAcc inventory was developed by Professor Ursula Lucas and has been subject to further development (Lucas and Meyer, 2005; Duff *et al.*, 2010). It is a subject-specific instrument intended to identify specific conceptions (students' perceptions of accounting) and motivations within introductory accounting, and tries to relate them to deep (transformative) and surface (accumulative) learning processes. As described in Duff *et al.* (2010), the first version of the inventory (ELAcc 1.1) was trialled with 386 first year accounting students in the UK in the 5<sup>th</sup> week of the second term. The following versions of the inventory were trialled with larger samples of introductory accounting students in the UK and Australia. To our knowledge, this is the first time this inventory has been used within Portuguese higher education.

The ELAcc (1.4) version that was used in the current study is the 50-item version comprising ten subscales with five items each<sup>1</sup>. The

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<sup>1</sup> As presented in Tables 1 to 3, a prior version of the instrument was comprised of five subscales of the current version (Lucas and Meyer, 2005) and a later version is comprised of nine subscales of the current version (Duff *et al.*, 2010).

subscales are: (i) enjoyment, (ii) lack of interest, (iii) worry, (iv) numbers, (v) exam focus, (vi) achieving (vii) reality/meaning behind accounting, (viii) questioning, (ix) social and economic importance of accounting, (x) objective/objectivity. As to the meaning of the subscales, according to Lucas and Meyer (2005, p. 199) and Duff *et al.*, (2010, p. 32): (i) enjoyment measures the extent to which “the student is motivated by the idea that the study of accounting is expected to be enjoyable”; (ii) lack of interest reflects that “the student is demotivated by the idea that accounting is a dull and boring subject”; (iii) worry expresses that “the student feels anxious about learning accounting”; (iv) numbers is related to “an epistemological belief that accounting is mainly about the study of numbers and calculations”; (v) exam focus measures the extent to which “the student’s main intention is to pass the exam”; (vi) achieving expresses that “the student has a strong motivation to succeed”; (vii) reality/meaning behind accounting reflects “an intention to understand the reality/meaning behind accounting”; (viii) questioning refers to “a view of knowledge that means that it is important to identify the underlying assumptions or principles on which it is based”; (ix) social and economic importance of accounting refers to when “accounting is seen as enabling a new view of (or changing understanding of) business, the economy or society”; and (x) objective/objectivity refers to “an epistemological belief that accounting is an objective subject, involving little subjectivity or uncertainty”.

Permission for using and translating the inventory was given by Professor Ursula Lucas in March 2012. The ELAcc inventory was translated into Portuguese by Teresa Pataco<sup>2</sup> with the assistance of the authors concerning the accounting terminology/context. The method used for translating the ELAcc inventory was based on the functionalist approach, focusing on the function of the translated text, that is, the target text (Munday, 2001; Snell-Hornby, 1995). During the translation process, Professor Lucas also clarified some ques-

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<sup>2</sup> Teresa Pataco is a professional translator and an English lecturer at ISCAP/IPP.

tions regarding the meaning of specific terms used in the inventory<sup>3</sup>.

In addition, as suggested by the author, an initial pilot test (i.e. Cronbach alpha coefficient) was carried out in order to assess the internal consistency of the subscales of the translated version. Accordingly, 32 questionnaires were collected in April 2012. The Cronbach alpha coefficient values were: (i) enjoyment (0.79), (ii) lack of interest (0.82), (iii) worry (0.74), (iv) numbers (0.76), (v) exam focus (0.74), (vi) achieving (0.58), (vii) reality/meaning behind accounting (0.78), (viii) questioning (0.84), (ix) social/economic importance of accounting (0.83), and (x) objective/objectivity (0.4).

Taking into account the results obtained in a previous study that was carried out in the Portuguese accounting context using the ASSIST instrument (Teixeira et al., 2013), the results of the pilot test were considered satisfactory for further collection of data. Therefore, the ELAcc (1.4) was distributed to 743 students of introductory accounting from across the five institutions. A total of 683 questionnaires were completed. There was a two-stage collection of data, which happened in May 2012 (end of the academic year 2011/2012) and in October 2012 (beginning of the academic year 2012/2013). Although the data collection did not happen in one academic year, in essence, this procedure aimed at assessing students' expectations and conceptions of accounting at the beginning and at the end of their studies of introductory accounting. Its purpose was to look for any changes concerning students' expectations and conceptions of accounting over time.

The questionnaire acknowledged the source and, apart from the specific instructions for answering the questionnaire, the aim of the study was presented and confidentiality of the answers was given. Data was collected in class and the students' participation was voluntary. This process was closely followed up by the members of the research team.

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<sup>3</sup> The translation process faces particular difficulties such as the lack of equivalence between languages, resulting from different structural and lexical features, idioms and collocations, and words that are context dependent. For an overview see Snell-Hornby (1995), Bassnett (2000) and Munday (2001).

### 3.3. Descriptive analysis

The first collection of data happened nearly at the end of the academic year (May 2012), and the second collection of data at the beginning of the academic year (October 2012). So, the following analyses will be presented in line with the course of the academic year in order to make sense in terms of the progress of students' expectations and conceptions of accounting over that period. That is, firstly, the data relating to October 2012 will be presented (i.e. first semester/term) and, then, the data relating to May 2012 (i.e. second semester/term).

Concerning the first semester, of the 366 questionnaires collected, 344 were completed. 52% were female students and 48% were male students. Ninety-six percent of the respondents were Portuguese nationals, with the remainder from other countries, namely, Brazil, Angola, France, China, Moldavia and Venezuela. In the three groups of disciplinary areas, 29% of the students were from accounting, 60% were from economics and management, and 11% were from other programmes. Regarding the second semester, of the 377 questionnaires collected, 339 were completed. 58% were female students and 42% were male students. Ninety-six percent of the respondents were Portuguese nationals, with the remainder from other countries, namely, Brazil, Cape Verde, Spain, France, England, Mozambique and Ukraine. In the three groups of disciplinary areas, 28% of the students were from accounting, 43% from economics and management, and 29% from other programmes. Between 88% (first semester) and 79% (second semester) of the sample attended introductory accounting in the first year.

### 3.4. Results and analyses

The statistical procedures and data analyses were carried out using SPSS 19. In short, students respond to the statements/items according to a five-point Likert scale, varying from 1 (definitely disagree) to 5 (definitely agree). However, the metric used in the ELAcc inventory is: 0 (definitely disagree) to 4 (definitely agree). Therefore, the results were calculated according to the later metric in order to be presented along with those of the reference studies (Lucas and Meyer, 2005;

Duff *et al.*, 2010). Based on these studies, the 10 subscale scores were calculated by (a) summing the responses to the statements (i.e. five items) belonging to each subscale and, then, (b) dividing each total by the number of constituent items. Tables 1 and 2 present the descriptive statistics along with those reported in the studies of Lucas and Meyer (2005) and Duff *et al.* (2010).

**Table 1 - Mean Scores of ELAcc subscales**

Expectations of Learning Accounting (ELAcc)	Portugal (1)		Portugal (2)		UK (3)	Australia (4)
	(a)	(b)	(a)	(b)	(a)	(b)
Enjoyment	13.3	2.65	12.9	2.59	12.9	2.51
Lack of Interest	7.4	1.47	7.4	1.47	7.9	2.31
Worry	11.4	2.82	11.4	2.27	10.4	3.04
Numbers	11.3	2.25	9.9	1.97	12.1	3.44
Exam Focus	5.4	1.07	5.6	1.12	4.6	1.20
Achieving	14.2	2.83	13.1	2.62		2.89
Reality/Meaning behind Accounting	15.5	3.10	14.8	2.96		3.04
Questioning	14.7	2.93	14.4	2.89		2.72
Social/Economic Importance of Accounting	15.1	3.01	14.6	2.91		2.75
Objective/Objectivity	11.7	2.33	11.3	2.26		

(1) First semester; (2) Second semester; (3) Lucas and Meyer (2005); (4) Duff *et al.* (2010)

**Table 2 - Standard Deviation of ELAcc subscales**

Expectations of Learning Accounting (ELAcc)	Portugal (1)		Portugal (2)		UK (3)	Australia (4)
	(a)	(b)	(a)	(b)	(a)	(b)
Enjoyment	2.66	0.53	2.87	0.57	3.51	0.60
Lack of Interest	3.81	0.76	4.01	0.80	4.87	0.56
Worry	3.66	0.73	3.52	0.70	4.94	0.49
Numbers	3.51	0.70	3.54	0.71	3.86	0.68
Exam Focus	2.96	0.59	3.19	0.64	3.04	0.70
Achieving	2.76	0.55	3.11	0.62		0.69
Reality/Meaning behind Accounting	1.90	0.38	2.32	0.46		0.49
Questioning	2.20	0.44	2.43	0.49		0.55
Social/Economic Importance of Accounting	2.39	0.48	2.33	0.47		0.54
Objective/Objectivity	2.20	0.44	2.58	0.52		

(1) First semester; (2) Second semester; (3) Lucas and Meyer (2005); (4) Duff *et al.* (2010)

The reliability and validity of the ELAcc (1.4) inventory was tested in order to validate the instrument within Portuguese higher education. The internal reliability of the ten subscales of ELAcc (1.4) was measured using Cronbach alpha coefficients. Factor analysis was carried out to group variables with similar characteristics, exploring the factor structure of ELAcc (1.4) subscales. Table 3 shows the Cronbach alpha coefficient values along with those reported in the studies of Lucas and Meyer (2005) and Duff et al. (2010).

**Table 3 - Cronbach Alpha Coefficient for ELAcc subscales**

Expectations of Learning Accounting (ELAcc)	Portugal (1) N=344	Portugal (2) N= 339	UK (3) N=1211	Australia (4) N=2028
Enjoyment	0.74	0.75	0.81	0.73
Lack of Interest	0.86	0.86	0.92	0.87
Worry	0.74	0.69	0.88	0.79
Numbers	0.84	0.80	0.88	0.83
Exam Focus	0.70	0.75	0.67	0.69
Achieving	0.56	0.61		0.68
Reality/Meaning behind Accounting	0.72	0.79		0.76
Questioning	0.75	0.79		0.73
Social/Economic Importance of Accounting	0.78	0.77		0.77
Objective/Objectivity	0.46	0.54		

(1) First semester; (2) Second semester; (3) Lucas and Meyer (2005); (4) Duff et al. (2010)

The Cronbach alpha values reported in both data collections show satisfactory internal consistency as most results are above a coefficient alpha value of 0.70 (e.g. Kline, 1999; Lucas and Meyer, 2005). Exception made for achieving and objective/objectivity subscales. However, the objective/objectivity subscale has been removed from later revisions of the inventory (Duff et al., 2010). In addition, one item from each of achieving and exam focus subscales was removed from the inventory. Thus, the ELAcc (1.4) version emerging from Duff et al. (2010, p. 16) “consists of 43 items with nine subscales”.

Nevertheless, concerning the first-stage collection of data in May 2012, it is apparent that if the last item (50<sup>th</sup> item) - ‘accounting is un-controversial’ – was deleted, the coefficient alpha value would go up

to 0.59. This came as no surprise, as during the pilot test students had shown doubts about the meaning of the term 'uncontroversial'; which is the equivalent to the Portuguese word 'incontroversa(o)'.

Problematic items were also found for lack of interest (one item: #42), worry (one item: #33), achieving (one item: #36), questioning (one item: # 28) and social and economic importance of accounting (one item: #9). That is, if these items were deleted, the internal consistency of the subscales would improve. On the whole, the results show good internal consistency for most of the subscales, indicating adequate reliability according to this stream of research (e.g. Duff *et al.*, 2010; Flood and Wilson, 2008; Lucas and Meyer, 2005).

Using the first-stage collection of data, factor analysis was carried out to explore the factor structure of ELAcc subscales. The Kaiser-Meyer-Olkin (KMO) and Bartlett's test were carried out. The result of the  $KMO=0.786$  shows that the sample is adequate to proceed with the factor analysis. Bartlett's test of sphericity is significant ( $p=0.000$ ), which means that the correlation matrix is not an identity matrix. Thus, correlation exists between some of the variables. The communality values are acceptable as only two of the values are lower than 0.5 (see Table 4). The analysis of the total variance explained by the factors shows that the first two factors explain 56% of the total variance. The components were extracted using the principal component analysis extraction method. Then, using the Kaiser criterion, two components were selected.

Rotated component factor matrix shows the loadings of the 10 variables on the two factors extracted after rotation to oblique simple structure using a *direct oblimin rotation* (see Table 4). So, Factor I is associated with the deep learning processes and Factor II is associated with the surface learning processes.

**Table 4 - Factor Loadings for ELAcc subscales and Communalities**

Expectations of Learning Accounting (ELAcc)	Factor I	Factor II	Communalities
Reality/Meaning behind Accounting	0.836	-0.062	0.710
Enjoyment	0.803	0.048	0.642
Social/Economic Importance of Accounting	0.772	0.125	0.598
Questioning	0.753	-0.063	0.577
Achieving	0.555	0.162	0.322
Lack of Interest	-0.609	0.458	0.619
Numbers	0.100	0.805	0.647
Objective/Objectivity	0.304	0.661	0.501
Exam Focus	-0.497	0.573	0.615
Worry	-0.093	0.550	0.318

The analysis of factor loadings indicates that the subscale 'objective/objectivity' is substantially loaded both on surface and deep measures. As to the correlation between factors (see Table 5), Factor I and Factor II are negatively correlated; which is in line with previous research.

**Table 5 - Correlations between Factors**

	Factor I	Factor II
Factor I	1	-0.070
Factor II	-0.070	1

Table 6 shows the subscales related to the deep (transformative) and the surface (accumulative) processes of learning accounting.

**Table 6 - ELAcc Inventory: Deep/Transformative and Surface/Accumulative Measures**

Expectations of Learning Accounting (ELAcc)	Deep/ Transformative	Surface/ Accumulative
Reality/Meaning behind Accounting	x	
Social/Economic Importance of Accounting	x	
Enjoyment	x	
Questioning	x	
Achieving	x	
Lack of Interest		x
Exam Focus		x
Numbers		x
Worry		x
Objective/Objectivity		x

These results are in line with those of Duff et al. (2010), except for the objective/objectivity subscale for the reasons previously explained. Taking into account the satisfactory statistical measures reported in the current study, the results validate the use of the ELAcc inventory within Portuguese higher education.

### **The impact of subject area**

As shown in Table 6, the deep patterns of learning encompass the first five subscales, which are, reality/meaning behind accounting, social economic importance of accounting, enjoyment, questioning and achieving; whereas, surface patterns of learning include the last five subscales, lack of interest, exam focus, numbers, worry and objective/objectivity. Following this categorisation, Tables 7 and 8 present the mean scores for the inventory subscales across the programmes/disciplinary area. Small variations in sample sizes are due to missing data relating to subject area. An analysis of variance (ANOVA) was conducted to test for differences in conceptions of accounting and expectations of learning it between disciplinary areas. Paired samples T-tests were carried out to test for any differences between deep and surface learning processes within subject area. One should bear in mind that

the significant differences detected by the statistical tests might be influenced by the large sample size in the case of economics and management programmes.

**Table 7 - Mean Scores (Standard Deviation) of ELAcc subscales across subject area: 1<sup>st</sup> Semester**

Expectations of Learning Accounting [ELAcc]	Accounting N= 98		Econ./Managem. N= 205		Other N= 37	
	M	SD	M	SD	M	SD
Reality/Meaning behind Accounting	3.20	0.31	3.04	0.41	3.10	0.33
Social/Economic Importance of Accounting	3.18	0.47	2.97	0.47	2.79	0.41
Enjoyment	2.93	0.42	2.54	0.53	2.46	0.57
Questioning	3.03	0.40	2.88	0.45	2.94	0.45
Achieving	2.85	0.52	2.85	0.55	2.64	0.63
Deep Learning Processes	3.04	0.29	2.86	0.36	2.79	0.29
Lack of Interest	1.05	0.57	1.66	0.77	1.56	0.74
Exam Focus	0.95	0.55	1.11	0.62	1.18	0.53
Numbers	2.42	0.73	2.22	0.68	2.03	0.66
Worry	2.31	0.71	2.32	0.74	2.09	0.73
Objective/Objectivity	2.29	0.44	2.37	0.46	2.23	0.31
Surface Learning Processes	1.80	0.36	1.94	0.39	1.82	0.34

Regarding the first semester, students from the accounting programmes score higher than the rest of the students on the following subscales: reality/meaning behind accounting, social/economic importance of accounting, questioning, enjoyment and numbers. They score lower than the rest of the students on lack of interest and exam focus. Thus, accounting students' conceptions of accounting and expectations about the study of it seem to be higher than the rest of the students. This is consistent with the literature that suggests that these students give greater relevance to the study of accounting than other students (e.g. Lucas and Meyer, 2004). In particular, students from accounting programmes seem to expect to enjoy accounting more than students from other programmes, while students from other programmes seem to expect to enjoy accounting less than the rest of the students. The same pattern happens concerning the 'social/economic importance of accounting' subscale.

In contrast, the opposite pattern is shown regarding the exam focus subscale. Students from other programmes seem to focus simply on passing the exam, whereas students from accounting programmes wish to succeed and achieve the higher possible grades in accounting. This is in accordance with the expected pattern of behaviour reported in the literature (e.g. Lucas and Meyer, 2004).

Students from economics and management programmes score higher than the rest of the students on lack of interest, worry and objective/objectivity subscales; while scoring lower than the rest of the students on reality/meaning behind accounting and questioning. Thus, economics and management students seem to be less interested in the study of accounting than the rest of the students, and perceive accounting more as an objective subject/technique than the rest of the students (e.g. Lucas and Meyer, 2004).

In addition, it is interesting to note that students from other programmes do not perceive accounting as an objective subject (or mainly about the study of numbers) as much as the rest of the students.

The ANOVA test showed significant differences between programmes for the following subscales: (i) enjoyment ( $p=0.000$ ); (ii) exam focus ( $p=0.048$ ); (iii) numbers ( $p=0.008$ ); (iv) reality/meaning behind accounting ( $p=0.005$ ); (v) questioning ( $p=0.020$ ); and (vi) social and economic importance of accounting ( $p=0.000$ ). The results of the Homogeneity of Variances test for the subscales 'lack of interest' ( $p=0.002$ ) and 'objective/objectivity' ( $p=0.037$ ) required the Kruskal Wallis test instead of ANOVA. The Kruskal Wallis test showed a significant difference to (vii) lack of interest ( $p=0.000$ ). Tukey's B test shows that the differences found in the enjoyment subscale were caused by accounting programmes. This is in line with the literature which suggests that subject area has an influence on conceptions of learning, studying and learning behaviour (e.g. Entwistle, 2004; Lucas, 2001).

Significant differences were found between deep and surface learning processes within programmes: accounting ( $p=0.000$ ), economics and management ( $p=0.000$ ) and other programmes ( $p=0.000$ ). Thus, for the three disciplinary areas, the results suggest a preference for a

deep pattern concerning students' conceptions of (and expectations of learning) accounting.

**Table 8 - Mean Scores (Standard Deviation) of ELAcc subscales across subject area: 2<sup>nd</sup> Semester**

Expectations of Learning Accounting (ELAcc)	Accounting N= 95		Econ./Managem. N= 144		Other N= 99	
	M	SD	M	SD	M	SD
Reality/Meaning behind Accounting	3.03	0.49	2.99	0.40	2.84	0.50
Social/Economic Importance of Accounting	2.96	0.49	2.90	0.45	2.90	0.47
Enjoyment	2.77	0.55	2.58	0.52	2.42	0.63
Questioning	2.99	0.47	2.89	0.47	2.80	0.50
Achieving	2.59	0.62	2.70	0.59	2.54	0.65
Deep Learning Processes	2.87	0.38	2.81	0.37	2.70	0.41
Lack of Interest	1.14	0.74	1.50	0.71	1.75	0.87
Exam Focus	0.97	0.62	1.05	0.56	1.36	0.69
Numbers	2.11	0.76	1.86	0.66	2.02	0.70
Worry	2.22	0.80	2.25	0.64	2.35	0.69
Objective/Objectivity	2.20	0.55	2.25	0.48	2.32	0.53
Surface Learning Processes	1.73	0.48	1.78	0.37	1.96	0.46

Concerning the second semester, again, students from accounting programmes score higher than the rest of the students on the following subscales: reality/meaning behind accounting, social/economic importance of accounting, questioning, enjoyment and numbers. They score lower than the rest of the students on lack of interest, exam focus, worry and objective subscales. Again, accounting students' expectations about the study of accounting seem to be greater than the rest of the students. These results are similar to the ones of the first semester and are consistent with the literature that suggests that these students give greater relevance to the study of accounting than non-accounting students (e.g. Lucas and Meyer, 2004). In addition, over time, it seems that their belief that accounting is an objective subject diminishes.

In contrast, students from other programmes score higher than the rest of the students on lack of interest, exam focus, worry and objective/objectivity, while scoring lower than the rest of the students on enjoyment, questioning, reality/meaning behind accounting and achieving

subscales (Lucas and Meyer, 2004). As for students from economics and management programmes, they score higher than the rest of the students on achieving and score lower on numbers subscales. It seems that, over time, these students increase their wish to succeed and decrease/diminish their belief that accounting is mainly about the study of numbers.

The ANOVA test showed significant differences between programmes for the following subscales: (i) enjoyment ( $p=0.000$ ); (ii) numbers ( $p=0.019$ ); and (iii) questioning ( $p=0.023$ ). The results of the Homogeneity of Variances test for the subscales lack of interest ( $p=0.020$ ), exam focus ( $p=0.031$ ) and reality/meaning behind accounting ( $p=0.031$ ) required the Kruskal Wallis test instead of ANOVA. The Kruskal Wallis test showed significant differences for (iv) lack of interest ( $p=0.000$ ), (v) exam focus ( $p=0.000$ ) and (vi) reality/meaning behind accounting ( $p=0.032$ ). Again, Tukey's B test shows that the differences found for the enjoyment subscale were caused by accounting programmes. These results suggest that subject area has an influence on students' conceptions of (and expectations of learning) accounting. Finally, significant differences were found between deep and surface learning processes within each disciplinary area as follows: accounting ( $p=0.000$ ), economics and management ( $p=0.000$ ) and other programmes ( $p=0.000$ ). Again, the results show a preference for a deep pattern concerning students' conceptions of (and expectations of learning) accounting.

Independent sample t-tests were carried out to test for any differences across the two time trials. Therefore, between the first and the second semesters, introductory accounting students' conceptions of accounting (and expectations of learning it) changed as follows. Concerning accounting programmes, significant differences were found for the deep learning processes ( $p=0.001$ ). Although students from accounting programmes show a preference for deep learning processes regarding their conceptions of accounting and expectations of learning accounting, this pattern decreases over time. In particular, significant differences were found for the following subscales: (i) enjoyment ( $p=0.024$ ), (ii) numbers ( $p=0.005$ ), (iii) achieving ( $p=0.002$ ), (iv) re-

ality/meaning behind accounting ( $p=0.007$ ) and (v) social/economic importance of accounting ( $p=0.001$ ). This suggests that, over time, students' expectations of enjoying the study of accounting decrease, along with their motivations to succeed, intention to understand the reality/meaning behind accounting and their belief that accounting enables a new view of business, the economy and society. Finally, students' belief about accounting being mainly the study of numbers also decreases. For the economics and management programmes, significant differences were found for the surface approach ( $p=0.000$ ). Thus, over time, students' surface measures decrease. Particularly, significant differences were found for the following subscales: (i) lack of interest ( $p=0.049$ ), (ii) numbers ( $p=0.000$ ), (iii) achieving ( $p=0.020$ ) and (iv) objective/objectivity ( $p=0.019$ ). This is due to a decrease in students' lack of interest, along with their belief that accounting is mainly about the study of numbers and is an objective subject, involving little subjectivity or uncertainty. As for the other programmes, significant differences were found only for reality/meaning behind accounting ( $p=0.000$ ), suggesting that, over time, students' intention to understand the reality/meaning behind accounting decreases.

These results are in line with the literature that argues that subject area has an influence on student learning (e.g. Entwistle, 2004; Lucas, 2001). Specifically, they point out the differences between specialist and non-specialist students' conceptions of (and their motivations for) learning accounting (Lucas and Meyer, 2005). In addition, the results suggest that, especially in the case of accounting programmes, the deep learning patterns concerning students' conceptions of accounting and expectations of learning accounting decrease over time. Further research is required to investigate this evidence and its possible causes.

#### 4. Concluding remarks

The current study aims at contributing to the stream of research that focuses on accounting students' conceptions of accounting and their expectations of learning it so as to develop a better understanding of student learning within introductory accounting subject matter (e.g. Lu-

cas, 2000, 2001; Lucas and Meyer, 2004; 2005; Duff, 2004; Ballantine *et al.*, 2008; Flood and Wilson, 2008; Byrne *et al.*, 2009; Duff *et al.*, 2010; Teixeira, 2013; Teixeira *et al.*, 2013b); Duff and Mladenovic, 2014].

There is evidence which suggests that students with different backgrounds [according to subject area] show differences in their learning and studying behaviour [e.g. Entwistle, 2004; Lucas and Meyer, 2004; 2005]. There is also evidence that suggests that conceptions of accounting and expectations of learning it play an important role in the learning process [e.g. Lucas and Meyer, 2005; Duff *et al.*, 2010; Duff and Mladenovic, 2014]. As a result, the current study reports the results of research into Portuguese introductory accounting students' conceptions of accounting and expectations of learning the subject of accounting within higher education. The study also investigates whether subject area has any impact on the mentioned aspects.

This study contributes to the literature in different ways. Firstly, it validates the ELAcc inventory within Portuguese higher education. Secondly, the study examines data collected from a sample of students [accounting and non-accounting students] at five higher education institutions [public/private/university/polytechnic], providing a wider perspective concerning students' conceptions of accounting and expectations of learning accounting. Thirdly, the results are in line with the literature that argues that subject area has an influence on learning aspects [e.g. McCunne and Hounsell, 2005]. Indeed, they point out the differences between specialist and non-specialist students' conceptions of accounting and their expectations of learning accounting [Lucas and Meyer, 2005]. This circumstance stresses the need to consider the different programmes [subject area] in which introductory accounting is taught. Furthermore, especially in the case of accounting students, the results suggest that, over time, the deep learning processes relating to students' conceptions of accounting and expectations of learning accounting tend to decrease. Thus, further research is needed to investigate this evidence and its possible causes. Nevertheless, in the current study, the collection of data did not hap-

pen in one single academic year; so, no matched-pair of responses were obtained in order to assess changes concerning students' conceptions of accounting over that period. Therefore, future research could tackle this limitation collecting data within the same academic year. Also, "it is plausible that other variables (e.g. age and social background) reflect different prior experiences of learning and interpretations of the context of learning" (Ballantine *et al.*, 2008, p. 199), thus, the investigation of these variables would be of great value. Moreover, future research should consider the use of other research methods, such as those used in phenomenographic studies (e.g. Lucas, 2000, 2001) so as to further investigate students' conceptions of accounting within introductory accounting.

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