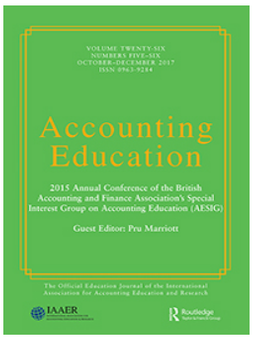

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Insights into learning profiles and learning outcomes within introductory accounting

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ABSTRACT

This paper reports an empirical study aiming to explore aspects of learning and studying introductory accounting in Portuguese higher education. It specifically provides insight into patterns of learning and learning outcomes. To do so, it draws on qualitative data collected from students' answers to a semi-structured interview about their learning experiences, particularly within introductory accounting. In addition, it examines students' learning outcomes related to several accounting concepts. The findings suggest a pattern of poor learning outcomes and surface or dissonant learning profiles. This exploratory qualitative study highlights fruitful areas for future qualitative and quantitative research on various aspects of learning and teaching introductory accounting.

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Introductory accounting; Portuguese higher education students; learning profiles; learning outcomes; interviews

1. Introduction

The literature provides evidence of the impact of the disciplinary context on student learning (e.g. Entwistle & Smith, 2013; McCune & Hounsell, 2005; Parpala, Lindblom-Ylänne, Komulainen, & Entwistle, 2013; Ramsden, 1997). Thus, drawing on approaches to learning literature, aspects of learning have been examined within introductory accounting (e.g. Byrne & Flood, 2004; Lucas, 2000, 2001; Lucas & Meyer, 2005; Mladenovic, 2000). For example, some phenomenographic studies have focused on students' views to address their approaches to learning and their perceptions of teaching (e.g. Lucas, 1998, 2001). Accounting involves not only technical knowledge and procedural tasks but also interpretation and judgement. The understanding process within accounting is based on not only analysis and interpretation but also calculative practices and related rationales. As illustrated by Mladenovic (2000), accounting has a theoretical base, involves complex applications and processes, is located in the real world, requires interpretation and judgement, is controversial and involves understanding both processes and terminology.

The current paper forms part of a larger research project on student learning within the subject of introductory accounting. The main objective of this exploratory study is to provide insight into patterns of learning and learning outcomes within this subject matter. To do so, it draws on qualitative data collected from students' answers to a

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semi-structured interview about their learning experiences and about their knowledge of several accounting concepts.

This analysis is important because it expands understanding about students' learning behaviour and their outcomes within a topic in which there is little literature and research and the majority of the studies that were carried out used questionnaires to assess themes related to the aforementioned topics.

The findings suggest a pattern of poor learning outcomes and surface or dissonant patterns of learning, which is consistent with the students' approaches to learning (SAL) literature and indicates that teachers should focus on students' patterns of learning in order to improve their learning outcomes.

1.1. Contribution

This study contributes to enrich accounting education literature which focuses on introductory accounting by providing evidence from a different context – the Portuguese higher education setting.

Considering that most studies have adopted questionnaires to assess students' approaches to learning in distinctive disciplinary areas and that it has been highlighted the importance of further exploring these themes through the use of interviews (e.g. Chung & McCracken, 2014; Entwistle & McCune, 2013; Lucas & Meyer, 2005), the current study contributes to the literature by applying a phenomenographic approach (through the use of interviews) in order to explore patterns of learning and learning outcomes within introductory accounting. Indeed, it allowed to explore students' answers/views about accounting concepts and, thus, gain a deeper, complementary understanding about their knowledge of introductory accounting topics based on their own wording (instead of using a template providing examples of answers as it happens in questionnaires). And it also provided insight into assessment issues.

Because one should not assume that a learning outcome is necessarily reflected in a student's examination mark, this study highlights the importance of measuring learning outcomes through students' descriptions of accounting concepts taught in an introductory accounting syllabus. This exploratory qualitative study also highlights fruitful areas for future research on various aspects of learning and teaching introductory accounting as well as the need for further reflection and discussion about the effectiveness of accounting education and the assessment process within accounting.

The paper is organised as follows. Section 2 provides a review of the relevant literature. Section 3 describes the Portuguese higher education setting, the research methodology, and the context and method of the study. Section 4 characterises students and their learning profiles. Section 5 analyses students' learning outcomes in relation to the studied accounting concepts. Section 6 provides a summary of the main findings, the limitations of the study and suggestions for future research.

2. Literature review

This section reviews the relevant literature to inform the study. Based on the SAL perspective, it reviews the literature that focuses on patterns of learning, examining those studies

that address the impact of subject matter on aspects of learning in different disciplinary settings, particularly in accounting education.

2.1. Patterns of learning within educational psychology

Students experience learning with different preconceived ideas of what learning is. In addition, students differ in their preferences for different kinds of teaching. Indeed, the literature suggests that students who adopt deep approaches are more likely to 'favour courses that they find intellectually challenging and assessment that allows them to express their own ideas', whereas students who adopt surface approaches to learning are more likely to favour 'courses that provide a ready link between the material taught and fact-based assessment procedures'; these latter students tend not to appreciate courses that are designed to focus on understanding (Entwistle & Peterson, 2004, p. 423).

The term 'conceptions of learning' refers to students' interpretation of the learning phenomena, which depends on their own conceptions of reality (Säljö, 1997). As Entwistle and Peterson (2004, p. 424) explain, 'the ways in which students conceptualise instruction will depend on the variety of experience they have had, and how they value and interpret those different experiences'. With respect to the scope of the different conceptions of learning, acquiring factual information and memorising what must be learned involves and depends on remembering that information (e.g. rote learning), thus reflecting a perception of learning as 'the process of accumulating the separate "pieces" of knowledge provided, ready-made, from a teacher or other source' (Entwistle & Peterson, 2004, p. 411). Applying and using knowledge reflects the idea of information as 'having a purpose beyond acquisition: it also has to be applied'; and it is only when individuals perceive 'learning as involving the effort to make sense of ideas for themselves by relating it to their previous knowledge and experience [that] information becomes transformed into personal meaning'. Then, understanding what has been learned involves learning as 'seeing things in an importantly different light, and so becomes fully transformative'. The final category reflects the perception of learning leading to 'a more fundamental change: changing as a person' (Entwistle & Peterson, 2004, p. 411). These categories can be labelled as follows: '(1) increasing one's knowledge, (2) memorising and reproducing, (3) applying, (4) understanding, (5) seeing something in a different way and (6) changing as a person' (Cano, 2005, p. 202). Whereas the first three categories relate to learning as reproducing, the second three categories relate to learning as transforming (e.g. ASSIST, 1997).

Research has provided evidence that students' conceptions of learning play an important role in students' learning behaviour, because these conceptions tend to influence their approaches to learning (e.g. Edmunds & Richardson, 2009). This line of research argues that a person's beliefs related to what learning is about have a significant impact on approaches to learning and to a large extent, on learning outcomes. Nevertheless, according to Entwistle (2000, p. 4), 'a deep strategic approach to studying is generally related to high levels of academic achievement, but only where the assessment procedures emphasise and reward personal understanding. Otherwise, surface strategic approaches may well prove more adaptive'. Therefore, students' perceptions of the academic environment have also been noted as a factor that has an impact on student learning (e.g. Ramsden, 1979, 1983; Ramsden, Prosser, Trigwell, & Martin, 2007; Trigwell & Prosser, 1991,

2004). For example, Ramsden (1979, p. 426) reports that students highlighted the importance of the teaching and assessment environment and that 'enthusiasm on the part of a lecturer encouraged them to put more effort into a subject and enjoy it more'; in contrast, those authors stress that a 'threatening teaching environment creates anxiety and students learn nothing'. Indeed, the literature provides evidence that suggests that surface approaches to learning are usually adopted in learning contexts which raise 'anxiety over assessment demands (e.g. perceived excessive workload, emphasis on accurate recall, threatening learning situations, lack of intrinsic interest in the subject-matter combined with a need to pass)'; moreover, deep approaches to learning are related to 'effective teaching, interest in the topic, and the opportunity to pursue particular subjects in depth' (Ramsden, 1983, p. 696). In line with this notion, Trigwell and Ashwin (2006, p. 255) find evidence that 'students who perceived a less appropriate workload, teaching that is less good, an inappropriate assessment system and unclear goals and standards, adopted more of a surface approach to learning than their colleagues in the same environment'. Trigwell and Prosser (2004, p. 410) report, 'students' perceptions of the quality of the teaching they received was related to the quality of their approach to learning'. Those authors find that on the one hand, higher scores on surface approaches to studying/learning were related to higher scores on preferences for teaching as information transmission. On the other hand, preferences for teaching as transforming (or as producing a conceptual change) were positively correlated with students' deep approaches to learning and negatively correlated with students' surface approaches to learning. Thus, students' preferences for teaching seem to have an impact on their learning behaviour.

Research also reports dissonance in student learning (e.g. Boulton-Lewis, Wills, & Lewis, 2003; Entwistle, Tait, & McCune, 2000; Gijbels, Segers, & Struyf, 2008; Meyer & Shanahan, 2003; Quinnell, May, & Peat, 2012; Vermunt & Vermetten, 2004). The phenomenon of dissonance has been described as 'a mismatch between approaches to studying and perceptions of the learning environment, or between internal and external regulation of studying' (Entwistle et al., 2000, p. 44). As explained by Prosser, Ramsden, Trigwell, and Martin (2003, p. 38), an 'incoherent pattern of learning is used when, for example, a surface approach is used with perceptions supporting a deep approach'. Boulton-Lewis et al. (2003, p. 85) conducted a phenomenographic investigation into conceptions of learning and ways of learning and found students who 'exhibited dissonance between their core conceptions and some of the ways in which they learned'. For example, data have shown the existence of students with a core conception of learning as 'personal growth' or as a 'change in thinking and understanding'; however, such students primarily used organisation and memorisation strategies (Boulton-Lewis et al., 2003).

The literature identifies possible causes for the dissonant patterns. For example, Entwistle et al. (2000, p. 45) posit that the unexpected linkages between approaches to learning and perceptions of the learning environment might be related to 'a tension between personal intentions and either the general learning environment provided or the pressures to conform to external assessment requirements'. Gijbels et al. (2008, p. 441) argue, 'students probably need time to get used to the new approach and to adapt both their perceptions and study approaches'. Indeed, the literature reports that this phenomenon is more common when students enter a new phase of education, for example, at the beginning of higher education (e.g. Meyer, 2000; Vermunt & Vermetten, 2004). According to Meyer (1991, p. 313), these students are 'at risk' of dropping out of higher education,

claiming that 'it is clear that if intervention for "at risk" students is going to be attempted it needs, for some, to start on the first day of registration'. Dissonance is often associated with low achievement or study outcomes and may also have affective consequences (e.g. Hazel, Prosser, & Trigwell, 2002; Vermunt & Vermetten, 2004). Inner conflicts between beliefs and behaviour quite often either reflect or lead to high levels of dissatisfaction and tension.

2.2. The importance of subject area and subject matter in student learning

The literature indicates that it is important to consider subject area specificity and its effect on student learning, because there is evidence of disciplinary variation in aspects of learning such as conceptions of and approaches to learning (Ramsden, 1997). For example, concerning students' approaches to learning, Parpala, Lindblom-Ylänne, Komulainen, Litmanen, and Hirsto (2010, p. 270) identify a specific pattern: 'students in the sciences and applied sciences are more inclined to adopt a surface approach to learning, whereas those in the humanities and social sciences are more inclined to adopt a deep approach to learning'. Concerning teachers' approaches to teaching, Ramsden (1997, p. 208) notes that 'it appears that lecturers in science departments are more likely to prefer formal, structured approaches to teaching and assessment', whereas 'in arts and social sciences, teachers endorse more flexible and individualistic methods'. Prosser et al. (2003) note that teachers in sciences and engineering seem to exhibit more dissonance in their teaching than do teachers in the arts and social sciences. They posit that this circumstance 'may partly explain why students' ratings of their experiences in the sciences and engineering are often lower than those for arts and social sciences' (Prosser et al., 2003, p. 47). Research has examined conceptions of a particular subject matter and the impact of those conceptions on aspects of learning within disciplinary areas such as mathematics (Cano & Berbén, 2009; Crawford, Gordon, Nicholas, & Prosser, 1998a, 1998b), biology (Quinnell et al., 2012), biochemistry (Minasian-Batmanian, Lingard, & Prosser, 2006), political science (Bliuc, Ellis, Goodyear, & Piggot, 2010) and introductory accounting (Lucas & Meyer, 2004, 2005). Identifying a learner's profile seems to be a critical factor for developing understanding about how students approach learning in distinct disciplinary areas (e.g. Lucas & Meyer, 2005; Quinnell et al., 2012). Thus, the relationship between students' conceptions of a subject and surface or deep learning processes has also been investigated (e.g. Crawford et al., 1998a, 1998b; Lucas, 2001). Researchers believe that this might be an important tool to enhance our understanding of how students approach their learning in various disciplinary settings. For this purpose, 'an important criterion in profiling the learner attributes of students has been determining whether students profess to taking a deep or surface approach to their learning' (Quinnell et al., 2012, p. 1054). Nevertheless, because conceptions of learning and preferences for teaching have an impact on approaches to learning, a broader distinction between accumulative (surface) and transformative (deep) learning processes has been used to define learning profiles.

In addition, the model of student learning suggests that students begin their higher educations already in possession of prior learning experiences and understandings. These prior experiences permanently interact not only with their perceptions of the learning environment/context and their approaches to learning when studying the subject matter but also with their post-learning experiences and understandings (Crawford

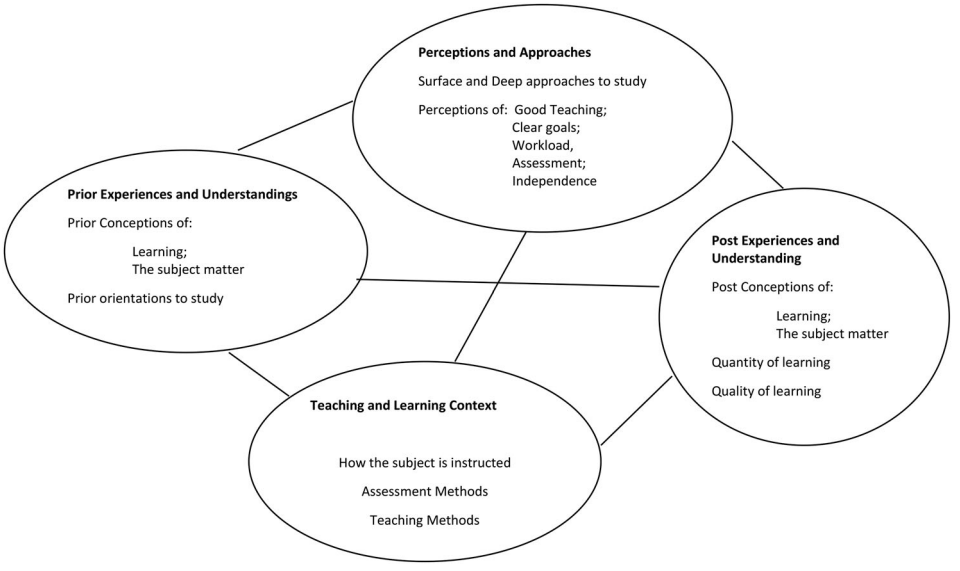

Figure 1. Model of student learning. Source: Crawford et al. (1998b, p. 457).

et al., 1998a). Students' past, present and future awareness/activity are seen as interacting in a continuum (see Figure 1).

Therefore, as highlighted by Entwistle and Smith (2013), when researching student learning, it is vital to examine students' reports of specific experiences within a discipline, a course or a particular topic or theme.

2.3. Aspects of learning, learning behaviour and learning outcomes in accounting education

The theoretical framework describing learning approaches had a strong influence on research in introductory accounting education. Taking into account the students' views, some studies addressed aspects related to the learning and studying of introductory accounting (e.g. Lucas, 1998, 2000, 2001). For example, based on qualitative interview-based research, Lucas (2000) finds two contrasting worlds of accounting: a world of detachment and a world of engagement. Furthermore, research shows that although students may begin their introductory accounting studies with positive expectations and attitudes about the study of accounting, these positive expectations and attitudes tend to decrease by the end of their studies (Marriott & Marriott, 2003). To some extent, this pattern is related to the teaching of introductory accounting. In fact, the traditional approach to the teaching of introductory accounting has been subject to criticism (e.g. Lucas, 1998). According to Lucas (1998, p. 192), this approach 'appears to involve a high degree of direction of the activities of the students and […] a degree of conditioning of their behaviour'. In contrast, non-traditional methods of teaching may challenge negative perceptions and attitudes towards the study of introductory accounting (Mladenovic, 2000). Indeed, there have been proposals aimed at motivating students and encouraging deep approaches to learning, which include the development of students' written

communication skills (e.g. English, Luckett, & Mladenovic, 2004; Krom & Williams, 2011), active learning (e.g. group activities) and research-based processes to encourage the development of critical thinking skills (e.g. Irving, 2011; Kelly, Williams, Matthies, & Orris, 2011).

The literature relates learning outcomes to both academic performance (e.g. Trigwell & Prosser, 1991) and task performance (Trigwell, Elis, & Han, 2012). In addition, Lucas (2000) stresses the importance of assessing learning outcomes through means other than students' marks. Thus, focusing on specific accounting concepts, Lucas (2001) examines students' explanations of accounting concepts, such as the balance sheet and the profit and loss account (P&L), classifying them as either disaggregated (fragmented/atomistic) or comprehensive (coherent/holistic). As described by Lucas (2001, p. 172), 'students provided either disaggregated explanations which focused on discrete components of the financial statements or global explanations which focused on the totality of the financial statements'. In addition, 'disaggregated and global explanations are not mutually exclusive' (Lucas, 2001, p. 173). However, Lucas (2001) reports a predominance of disaggregated analyses/explanations amongst the students' answers. That author also finds on the one hand, a clear association between disaggregated descriptions and the adoption of a surface approach to learning and on the other hand, a relationship between coherent/comprehensive explanations and the adoption of deep approaches to learning.

Lucas (2001) describes the deep approach to learning as students aiming to understand the subject matter and seeking meaning (intention to understand); identifying patterns and principles; expressing an intrinsic interest in studying (interest in ideas) and deriving enjoyment from studying; and relating ideas both to their personal experience and to other subjects or topics within the subject. In contrast, Lucas (2001, p. 162) characterises the surface approach as students aiming to memorise and reproduce knowledge, expressing an extrinsic motivation, feeling that learning is an imposition, and, most importantly, 'failing to integrate topics into a coherent whole', because they approach the learning of the subject by focusing on separate parts of knowledge. For example, when attempting to solve a problem or a question relating to the balance sheet:

> … if a student is seeking to 'fit things in' this may indicate a format approach which may also demonstrate that the student only perceives a balance sheet as an accumulation of fragmented data, something to be 'produced' rather than as something that has a particular significance and meaning. (Lucas, 2001, p. 181)

Moreover, Lucas and Meyer (2005) report that the deep/transformative learning processes are associated with the intention to relate what one learns to aspects of relevance in terms of a career, business or even higher education, whereas surface/accumulative learning processes are associated with focusing on passing an exam or obtaining a professional qualification and reflect a sense of detachment, with accounting being perceived as a subject that lacks relevance. Other studies focus on conceptions of learning within accounting education. For example, based on the categories of description established by Säljö (1979), Byrne and Flood (2004) analyse students' written descriptions of what learning meant to them. Those authors find 'evidence of the variation of accounting students' conceptions of learning from the simplest conception of learning involving knowledge acquisition to the most complex perspective of learning as embodying personal development' (Byrne & Flood, 2004, p. 25). They also find that conceptions of learning as reproducing

were more common among accounting students than conceptions of learning as transforming.

3. Context and methodology

This section presents the Portuguese higher education setting and describes the research methodology and the context and method of the study.

3.1. The Portuguese higher education setting and the Bologna Process

Despite the fact that the oldest university in Portugal, the University of Coimbra (established in 1290), is 'one of Europe's original seats of learning' (Moore, 2011, p. 309), one could say that 'until the mid-seventies, the Portuguese higher education system was clearly an elite system'[1] (Teixeira, Rocha, Biscaia, & Cardoso, 2012) because 'before 1973, there were only four universities in Portugal' (Kerklaan, Moreira, & Boersma, 2008, p. 245). However, 'awareness of the need to expand offer and access to higher education by the end of the 1960s led to several new universities and polytechnics being established in the early 1970s' (Kerklaan et al., 2008, p. 245).

Therefore, between the mid-1970s and the mid-1990s, Portuguese higher education pursued diversification of the system (e.g. the establishment of the binary system: encompassing both universities and polytechnic institutions (Kyvik, 2004; Santiago, Carvalho, Amaral, & Meek, 2006)), leading to its continuous growth and expansion. Several factors contributed to this dramatic increase. The most significant among them were the educational policies and recommendations of the Organisation for Economic Co-operation and Development (OECD) and the educational and research policies of the European Union (EU) to implement higher education reforms in Europe (e.g. MCTES, 2006). The pace of change has since slowed because of the decline in the number of higher education applicants (as result of a decrease in birth rates) and the policies implemented to reform Portuguese higher education, aiming to improve its quality and efficiency (Santiago et al., 2006). Thus, the need to justify public funding and improve the quality of learning environments and outcomes were the highest policy priorities in higher education.

In addition, the Bologna Process introduced several changes to the Portuguese higher education system. These changes included 'the creation of a comparable structure of academic degrees, mutual recognition of diplomas and course units, the assessment of academic institutions and programs based on common quality standards' (Cardoso, Portela, Sá, & Alexandre, 2007, p. 3). Amongst other aspects, the Bologna reform aimed to create a student-centred learning environment, increase student involvement, redefine the curricula and qualification frameworks, and support higher education as both a public good and a lifelong learning goal (Birtwistle, 2009; Portela, Sá, Alexandre, & Cardoso, 2009).

Nevertheless, the diversification of Portugal's higher education system over the past few decades, along with its growth and development, increased the complexity of the learning environment, posing problems for both teaching and learning activities. These problems resulted from, for example, 'the pressure to adapt more general programmes to a more diverse student population' (Teixeira et al., 2012, p. 337).

3.2. Research methodology: phenomenography

Phenomenographic research has demonstrated that students experience learning (or the understanding of a particular concept) in various ways (e.g. Åkerlind, 2012; Booth, 1997; Marton, 1981; Marton & Pong, 2005; Marton, Watkins, & Tang, 1997; Säljö, 1997; Svensson, 1997). Various 'ways of experiencing', 'ways of understanding' and 'ways of apprehending' or 'conceptions' form the categories of description in phenomenographic research (e.g. Hallett, 2010; Marton & Pong, 2005). Accordingly, for each concept, a set of qualitatively different ways of understanding (i.e. conceptions of) that same concept can be identified. These different ways of understanding phenomena are based on students' internal logic and are associated with how they approach learning tasks. Finally, students' approaches to learning are related to learning outcomes (Booth, 1997). In general, the literature has provided evidence that 'students who adopted a deep approach achieved overwhelmingly superior understanding of the message of the text and also retained information better than their surface studying colleagues' (Booth, 1997, p. 136).

According to Ashworth and Lucas (2000, p. 301), 'much phenomenographic research has been replicatory in nature'. For example, several studies have used the categories of description concerning conceptions of learning (i.e. learning as transforming or learning as reproducing knowledge) developed by Marton, Dall'Alba, and Beaty (1993) and Säljö (1979). This research approach has been frequently adopted within student learning in general and within subject matter, with a focus on understanding how students conceive of specific concepts within specific disciplines (Ashworth & Lucas, 2000; Lucas & Meyer, 2005). Overall, phenomenographic research emphasises both the importance of focusing on the students' experience or lifeworlds (Lucas, 2000) and the importance of obtaining a variety of experiences to address the topic under investigation (Ashworth & Lucas, 2000).

The current study is developed within this scope and is based on this body of research. The preferred approach to collecting data was interviewing subjects (Åkerlind, 2012). Although there are few details on how to conduct this research approach (e.g. Greasley & Ashworth, 2007), the literature offers some guidance related to the process of collecting and analysing the data (e.g. Åkerlind, 2012; Ashworth & Lucas, 2000). The semi-structured interviews were carried out based on the interview guide and included some of the following questions: Can you tell me about your learning and studying experiences in general?; How do you feel about learning and studying?; How do you feel about the study of introductory accounting?; What can you tell me about teaching in introductory accounting? (How would you like it to be?); What can you tell me about the 'balance sheet' and the 'profit and loss account'?; and What are 'financial statements'?

The interviews were developed based on the interview guide but were attuned to the students' answers. Accordingly, when students wanted to express or expand their views on a particular theme, they were not discouraged from doing so. If an explanation or idea was not sufficiently clear, they were asked to give additional details. The notion that there was no 'right' or 'wrong' answer was expressed to the students. Students' feelings and ideas about the aspects under study were explored in an informal manner. Afterwards, the content of the interviews was transcribed, and the transcripts became the focus of the analysis. This process is further explained in the next section.

3.3. Context of the study and method

As previously noted, this paper forms part of a larger research project on student learning and studying within the subject of introductory accounting in Portuguese higher education. For this purpose, the research adopted the SAL theoretical framework, as described in the literature review and illustrated in Figure 2.

The first stages of the research examined, among other aspects, students' conceptions of learning, their approaches to studying and their preferences for teaching. These studies adopted a quantitative research approach and data were collected through the use of questionnaires (Teixeira, 2013; Teixeira, Gomes, & Borges, 2013, 2015, 2016). Finally, using a phenomenographic research approach, the last stage aimed to explore aspects of learning (and studying) within introductory accounting through the use of interviews. Its purpose was to gather data that could provide insight into issues that were not previously explored in the questionnaires. This paper reports topics/aspects within the latter analysis and as noted above, it specifically provides insight into patterns of learning and learning outcomes.

Ten students were interviewed about their experiences learning introductory accounting. These students were recruited at three Portuguese higher education institutions for a semi-structured interview. Students who were eligible to participate as volunteers in the study were invited at the beginning of classes. Following the work of Lucas (2001), when a sample of 10 students was obtained, the research team made no additional effort to recruit more students.

As in Lucas (1998, p. 106), 'it was thought to be appropriate that students should be interviewed at the end of their course when they had a fair amount of experience to reflect on, but that experience would be fairly recent'. For that reason, all but one student had attended and passed the subject of introductory accounting during the previous academic year. In some cases, this event was quite recent (i.e. three/four months prior). Nevertheless, there is evidence that 'indicates that we should not be surprised to find that students possess misconceptions about basic disciplinary concepts in spite of

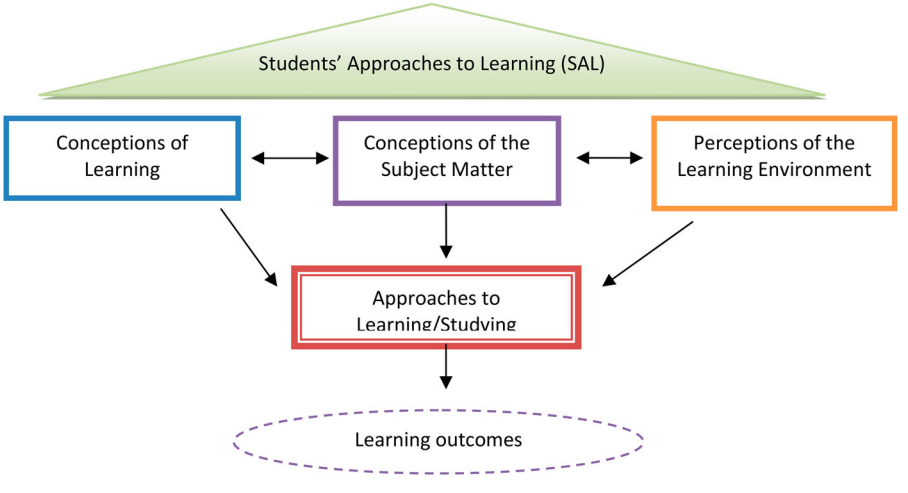

Figure 2. The SAL perspective.

passing the course' (Lucas, 2000, p. 481). That is, one should not assume that the outcome of learning is necessarily reflected in a student's examination mark. Thus, learning outcomes were examined through students' descriptions of accounting concepts taught in their introductory accounting syllabus.

To investigate whether the categories of description of conceptions of learning, approaches to learning and preferences for teaching reported in the literature (e.g. Entwistle et al., 2000; Marton, 1981) could be replicated in the current study, students were asked about their learning and studying experiences in general and how they felt about learning and studying. These questions were then asked with a focus on introductory accounting. Next, taking into account the guidelines for the phenomenographic approach to research (Åkerlind, 2012) and based on the transcripts of students' answers, the research team carried out the process of identifying the above-mentioned categories of description.[2] For example, one way of analysing the data involved 'seeking similarities and differences in the data and iteratively making more and more sense of the whole data pool in terms of qualitatively different categories of meaning' (Booth, 2012, p. 95). Additionally, as Booth (2012, p. 95) states:

> … giving whole transcripts priority, where the meaning that an individual student is making in a given context is held in focus, and, in contrast, of focusing on the meaning signified by text extracts in relation to one another and losing, temporarily, the student as such.

These methods were applied during the process of analysing and classifying data. Another method adopted was 'looking at the data from different perspectives at different times' (Åkerlind, 2012, p. 122). This process was the basis for determining students' characterisation and learning profiles (as will be further explained in Section 4).

The analysis of the accounting concepts also aimed to investigate the qualitatively different approaches that the students adopted while explaining these concepts. The analysed concepts were balance sheets, profit and loss accounts (P&L) and financial statements. The definitions of the selected accounting concepts are presented in the Appendix. Although these are fundamental and universal concepts in accounting, they are presented to clarify the basis for the assessment of students' learning outcomes. The discussion of the above-mentioned concepts aimed at assessing students' views of concepts taught within financial accounting modules. The choice of the concepts was based on both the literature (e.g. Lucas, 2001) and (as stated above) the fact that these concepts are fundamental to introductory accounting. In addition, these concepts entail other concepts that are both vital and complex (assets, liabilities, etc.), thus allowing them to be explored together with an analysis of the connection between concepts.

Based on the literature on conceptions of the subject matter (e.g. Crawford, Gordon, Nicholas, & Prosser, 1998b; Lucas, 2001), the analysis focused on whether students adopted more of a holistic/cohesive/deep approach, a discrete/fragmented/surface approach, or both. This process was assisted by two experienced introductory accounting lecturers. The two specialists were selected because they had considerable and relevant expertise in terms of both teaching and professional practice.

In this study, introductory accounting encompasses modules such as elementary accounting and introductory financial accounting and is taught to both accounting and non-accounting students. Students were following five programmes, namely, accounting, management, economics, public administration and international business. The number

of participants allowed the possibility of having more than one view per institution (and per programme in the case of accounting programmes). The selection of students from various institutions (public and private, university and polytechnic) and subject-area backgrounds (accounting and non-accounting students) aimed at obtaining a variety of views and experiences related to learning introductory accounting.

The interviews were conducted between 8 and 22 October 2012. Thus, students were interviewed sometime after their introductory accounting examinations (i.e. at the beginning of the next academic year). Similarly, for practical reasons, the best time to access students was before their examinations and other current assignments. A pen drive (2 GB) was offered to students in appreciation for their participation in the study. Students were told that the purpose of the interview was to learn about their views on aspects of learning and studying within introductory accounting. To avoid study prior to the interview, students were not told that accounting topics and concepts were going to be discussed. They were also told that the interview was going to be tape-recorded, unless they chose not to give their permission. On average, the interviews lasted approximately 30 minutes. Participation was voluntary and confidentiality was assured. Next, selected excerpts of the interviews were translated into English by a professional translator (with the assistance of the research team with respect to accounting terminology or the meaning behind students' statements). The translation process was based on the functionalist approach, focusing on the function of the translated text (e.g. Munday, 2001). In some cases, translation had to be adapted/adjusted so that it would make sense to the reader.

Introductory accounting courses' content and syllabi are similar in the three institutions. The introductory accounting syllabus taught in Portuguese higher education largely focuses on double-entry bookkeeping based on Portuguese accounting standards (i.e. the *Sistema de Normalização Contabilística* (SNC)) and the International Accounting Standards/International Financial Reporting Standards (IAS/FRS). In addition, essentially the same syllabus is used for accounting and non-accounting students. Thus, most students initially approach introductory accounting through the study of double-entry bookkeeping.

4. Students' characterisations and learning profiles

As shown in Table 1, of the 10 students that were interviewed, six were from accounting programmes and four were from non-accounting programmes. The group of students was composed of six female students and four male students. The groups' average age is 20.5 years old. All the students are Portuguese nationals. Student 5, the youngest student,

Table 1. Students' characterisations and learning profiles.

Students	Programme	Age	Gender	HE	Learning profile
1	Management	23	Male	A	Deep learning processes
2	Public Administration	20	Male	A	Dissonant learning processes
3	Accounting	19	Female	B	Dissonant learning processes
4	Economics	20	Female	A	Surface learning processes
5	Accounting	18	Female	B	Surface learning processes
6	Accounting	23	Female	C	Strategic/surface learning processes
7	Accounting	21	Male	C	Dissonant learning processes
8	Accounting	19	Female	A	Strategic/surface learning processes
9	International Business	20	Female	A	Dissonant learning processes
10	Accounting	22	Male	A	Dissonant learning processes

Note: HE: higher education institution.

commenced her undergraduate studies in introductory accounting at the age of 17. As mentioned before, all but one student attended and passed the course in the previous academic year. Indeed, Student 10 is still enrolled. During the interview, students mentioned particular aspects of their backgrounds before entering higher education, along with their non-academic activities. For example, concerning the area of students' secondary studies, three of the students had studied science (i.e. Students 5, 7 and 10). For this reason, Student 7 decided to obtain basic knowledge in accounting before participating in accounting undergraduate studies. Thus, as part of a post-secondary professional accounting course, he trained in an accounting office. Student 6 had also studied accounting before participating in higher education in a secondary-school professional accounting course.

Concerning extracurricular activities, three of the students work part-time in activities not related to accounting (Student 3, 7 and 10). Only Student 10 has previously worked in activities connected to accounting (cash management and debt collection). This student is also involved in a few academic projects. Student 8 engaged in competitive sports before entering university.

The learning profile is based on the students' answers to questions about their learning and study experiences both in general and within introductory accounting. This profile expresses the students' preferences related to aspects of learning, that is, conceptions of learning, approaches to studying and preferences for teaching. Thus, if a student is classified as engaging in 'deep learning processes', this means that this student shows a preference for this particular type of learning process.

For example, during the interview, Student 1 provided evidence of primarily adopting a deep approach to learning, expressing elements of 'seeking meaning' and 'relating ideas'. When studying introductory accounting, he mentioned that he used to analyse his bank account to understand and relate it to the theory taught in introductory accounting classes. In addition, he placed great importance on relating his learning to aspects of relevance in terms of a career or business. Similarly, he reveals a questioning attitude towards the study of introductory accounting:

> … I used to analyse my bank account [and there were some transactions], and it was totally the other way round – a credit in my account meant money coming in and here [the subject of introductory accounting] it meant the opposite, and at the beginning that was very confusing …

Concerning perceptions of the learning environment, Student 1 reveals the type of teaching he favours as follows:

> Thinking about the lectures … well, some of them were taught in huge classrooms, with loads of students, and I think this undermines learning in such classes … as there were too many people … the teacher had to stop and ask them to be quiet and that would delay things for a while. […] as to the syllabus, I think it should somehow try and include group assignments […] I think that would help students to enjoy accounting more, as they would understand the way accounting is in fact really related to real life.

This excerpt from the interview shows a preference for active learning and for teaching that encourages students to read around the subject. Student 1 argues that this type of teaching would help students feel more engaged with the study of accounting than the traditional approach to teaching, which, according to Lucas (1998), leads to a high degree of

direction and conditioning of students' behaviour. This comment also highlights the challenges arising out of large classes.

That said, if a student presents mixed processes of learning, this means that the student displays dissonant patterns of learning, such as showing a preference for conceptions of learning as a transforming process (deep) and a preference for teaching as a transmitting process (surface). For example, Student 3 shows a mixture of transformative/deep versus reproducing/surface conceptions of learning:

> We feel more fulfilled when we start studying and when we acquire knowledge and put into practice everything learned in class […] the experience is really good, very positive … I feel fulfilled by doing it … and apart from that, one day, I'll want to get in the labour market.

In addition, Student 3 shows a preference for learning environments and teaching that emphasise a transmitting process:

> I've never been much of a reader … [Interviewer: And why is that?] I think I've never had that habit … I've never been keen on reading … I read books when it was compulsory … in secondary school and so … but it's not something I can say 'I enjoy reading' … it's something I do because I have to. I like studying, yes I do, but theory … it's only when it's compulsory.

She continued as follows:

> There is a huge distance between the teacher and the student. Many teachers get to the classroom, teach the syllabus, and they don't have any kind of interaction with the students … and I think this interaction is really important … because we speak [about the subject/topics] … and that's the kind of teacher/student interaction and the way a teacher teaches that makes the difference […] That's what happens in secondary school and that's what we are used to … we feel the difference here.

Student 3 does not value courses in which students are encouraged to do extensive reading around the subject for themselves and to develop independent learning skills.

Student 9 also displays a dissonant pattern of learning resulting from a mixture of deep and surface aspects in terms of conceptions of learning and preferences for teaching. For example, she mentions aspects of relevance in terms of learning based on personal fulfilment and feelings of happiness and enjoyment that relate to a preference for deep patterns of learning (e.g. developing as a person). However, she indicates a lack of independent learner skills because she essentially values teaching as assisting students in a dependent manner:

> I think it's extremely important for us to feel that the other person [the teacher] is someone open minded [accessible and tolerant] and that can express themselves quite well … but we have teachers that are a bit too academic. We know they understand [the subject] and they are known as 'the brains' and that they have developed an impressive research career, but then when they need to explain things in a way … well, because we need things to be explained as almost if we were young children … one needs, basically, to get closer to the students' level.

She further details the aspects she values in a teacher:

> It's important that the teacher is open minded [willing to listen to students] … because we often see that there are teachers who distance themselves from students, they explain the syllabus and say they are available to explain things to us, but in fact they aren't, as they show a quite aggressive attitude towards us if we don't understand/explain something immediately

> and exactly as it was told to us before, see what I mean? If we don't grasp things, it's because we were not paying attention … or … or something like that.

Additionally, concerning the teaching of accounting, she considers that:

> Accounting requires several aspects [steps, procedures] … and, so, that also requires a lot of organisation [in teaching] and that the teacher shows us that everything is logical and follows a clear line of reasoning, because if the teacher starts skipping steps and omitting something the teacher thinks is quite basic, we will get completely lost. So, it must be someone who follows a clear line of reasoning.

This illustrates that Student 9 believes that students completely rely on the teacher to understand the subject matter and that the teacher is expected to assist students as if they were literally 'young children'. Student 2 also displays a somewhat dissonant pattern. For instance, Student 2 values aspects relating to intellectual growth:

> For me, learning is to understand knowledge, but more than that, it is to reflect on it. Not just limited to what is said in class … try to explore a bit, try to think a little bit about that, try to develop, even if just an A5 sheet of a certain topic, but always try to reflect on a certain topic …

In addition, although it is not entirely clear what type of learning environment Student 2 prefers (he seemed to avoid giving a straightforward opinion on that matter), he highlights the importance of transmitting knowledge and assisting/guiding students through learning. Student 2 valued teaching as a source of motivation, thus showing, to some degree, that he seems to rely on extrinsic motivation:

> I think motivation and leadership are essential. They are key concepts for everything, not only for learning and teaching, but for everything else. […] how things are taught, leadership, and charisma are essential to motivate us to study and to reflect on things.

At some point, he also mentioned that he was happy with the accounting teaching that he has received thus far, but he clearly stated:

> Well, bear in mind that I'm talking about the accounting I'm taught [in introductory accounting]. That is, apart from what I'm taught, I'm not aware of its existence.

Indeed, it seems as though Student 2's learning and studying of accounting is entirely based on what his teachers discuss in class. Students 6, 8 and 10 display a clear preference for a strategic approach to learning. For example, Student 8 describes her study methods as follows:

> I usually plan the study [build a chart] I have to do for the various subjects […] I've had this method all my life. I've really had the need to schedule my life because of sports and so on, and I really had a study plan […], and so I would basically stick to that plan.

There is a common feature among the three students: they take great responsibility for how they spend their time and money. In particular, Student 8 has participated in competitive sports and displays a high level of regulation and organisation. Student 10 has a part-time job and engages in other academic activities, so he must spend his time and energy wisely. Student 6 is originally from the Azores, so she is living far from home and feels a moral responsibility in terms of spending time and money. Nevertheless, the preference for a strategic approach to learning was combined with either 'deep/

transformative' or 'surface/reproducing' conceptions of learning and either 'deep/supporting understanding' or 'surface/transmitting information' preferences for teaching. Students 6 and 8 both displayed strong indicators related to a preference for teaching as transmitting (surface) and learning as reproducing knowledge (surface). For instance, with respect to her preferred type of teaching, Student 6 mentioned that she particularly enjoyed it when teaching notes were delivered through slides (i.e. PowerPoint-type presentations). In addition, Student 6 limits her study to her class notes and the exercises provided by the teachers (along with their explanations):

> I always try to take as many notes as I can. I mean things that teachers might tell us: This is important […] I solve exercises, if there are any. If it's a theoretical subject, I see if I've understood the topics so that at the beginning of the following week I can ask the teacher in case I've got any questions […]. As to the exercises, there are teachers who give us exercises and then give us the answers to the exercises. If they don't give the answers and I have doubts, then I also ask them. I don't see any problem in doing that.

Similarly, Student 8 notes that her study is based on what she learns in class. She memorises the topics and exercises because she reviews them repeatedly, as she explains:

> Basically I repeated every exercise solved in class twice, three times … [and so on]. Sometimes, I would get to the point that I already knew the exercise by heart. I knew the results by heart. And I think that it helped me, as in exams I knew the exercise was identical to the one that was solved in class, and it was much easier for me because I knew it by heart and I also knew how it worked.

The two students revealed that this was the type of learning environment that they appreciate the most, that is, an environment based on teaching as transmitting with 'lecturers who tell students what to put down in their notes' (Student 6) and 'exams or tests that need only the material provided in lecture notes' (Student 8). Student 10 shows a dissonant pattern of learning. Thus, he favours conceptions of learning that favour personal development because he is committed to participating in projects and activities other than studying to develop personal and interdisciplinary skills. However, he favours teaching as transmitting. For instance, when mentioning positive aspects about the teaching, he states:

> Positive aspects … hmm … the teacher gave us the slides used in classes which had all the information needed to do this subject … to pass the subject, that's it … and hmmm … the teacher explained the syllabus quite well … hmm … and that's the most important, right? … because if someone is teaching the syllabus … doesn't … doesn't know how to transmit the information … those on the other end can't understand the message, right?

Two of the three students who had previously studied science favoured more of a surface approach to learning, because they mostly based their study on rote learning. For example, Student 5 explains how she usually studies:

> As the dates of exams and assessments get closer, I try to learn some theoretical things by rote.[3] These [theoretical topics] you really must know, and there's no other way …

Her explanation also indicates a special focus on examinations. She goes on to explain that:

> I would come up with some strategies or develop outlines to learn by heart the theoretical concepts and then the definitions would begin to get in [rooting them in the brain], or if I thought that wouldn't make any sense, and that I couldn't come up with any outline, I had to memorise, memorise and not forget. [Interviewer: What about accounting in

> particular? Does it also happen like that?] Hmmm … sort of … we always have the theoretical concepts, which are the basic concepts, but we can relate things with the practical part and then it's much easier to make the outlines or come up with a strategy to manage to learn the theory by rote.

Student 7 also explains how he approaches studying:

> I outline the whole subject … as summarised as possible. I even use elaborated concepts and 'sophisticated' words, and that forces me to look up their meanings when I am studying from my notes … hmmm … and then I've got this advantage, I'm really good at learning by rote. And I end up knowing things by heart. And even in technical subjects, with practice, I end up knowing exercises by rote …

In a way, this statement is in line with the literature arguing that science students – more than students in other subject areas – usually favour surface approaches to learning more (e.g. Lucas, 2001). Indeed, these students were the ones who clearly stated that they learned topics by rote. Nevertheless, although the two students share the same approach to learning and studying, their profiles differ. In general, Student 5 conceives of learning as something that is challenging/problematic and demands a high degree of personal sacrifice; she expresses a tone of suffering and worry about her learning and studying, which groups her within the surface learning profile. Student 7 displays a dissonant profile of learning, combining surface approaches to learning with both deep and surface conceptions of learning. For example, Student 7 mentions that:

> When we are studying, we're also thinking: 'I have to study, it's compulsory because I want to finish my degree' … then there's always the other side of the argument to think about, because it's … it's … another way of gaining vocabulary and … we start developing other attitudes, other perceptions of certain things, and we manage to assess the culture in which we are living, we end up growing up as persons and … we end up opening new horizons in life, really. [Interviewer: So you feel yourself evolving and developing as a person?] Absolutely, absolutely.

He favours teaching as transmitting:

> There are teachers who are in the classroom and just read [the textbook or their own notes] and they leave the explanation at home … They do not explain things, and a subject such as accounting must be explained, must be practised … they should even bring real elements into class, so that we know what it is and how it is …

In addition, when talking about the conceptual framework, he mentions:

> We can't interpret/comprehend those concepts, and not even the teacher can explain to us the way we should … in a way that we can understand. The teacher can't place himself … get down to our level … because introductory accounting is for students who don't have any experience [of the subject], who don't know what accounting is […] and quite often the teacher can't get to the students' level. He speaks from a higher level, about elaborate concepts that we do not always know, that don't belong to our everyday language.

These comments, to some extent, reveal that although Student 7 conceives of learning as developing as a person, he does not value the independent learning environment of higher education.

Finally, Student 4 does not expand much on her ideas about learning and studying. Overall, she mentions that she enjoys studying and learning and that she feels that she

easily learns things, which is probably why she wishes to engage in further study and learning. She sometimes uses the Internet to learn more about the topics that the teachers present in classes. Nonetheless, she seems to perceive learning mostly as 'building up knowledge by acquiring facts and information', which is related to learning as reproducing knowledge. Like Student 6, Student 4 particularly enjoys it when teaching notes are delivered by PowerPoint-type presentations. Moreover, Student 4 favours teaching as transmitting, mentioning that:

> I rather prefer that I'm told [by the teacher] more or less what's most important to study, then, of course, it [the study] will depend on what I reckon I should study, but I like to be guided, I mean, that I'm told what's more important to study.

In summary, only one student favours deep learning processes (Student 1). Half of the sample shows dissonant patterns of learning that are mostly characterised by a preference for conceptions of learning as transforming combined with a preference for teaching as transmitting (Students 2, 3, 7, 9 and 10). In addition, two of the students favour surface approaches to learning, and the other two display a preference for strategic approaches to studying/learning combined with surface learning processes.

It should be briefly noted that despite the different time periods, it is interesting to observe that the students' perceptions of the learning environment within Portuguese higher education in this study are in line with the findings reported in Wierstra, Kanselaar, Van der Linden, and Lodewijks (1999). That is, Wierstra et al. (1999) analyse the perceptions of Dutch and other European students who studied abroad on the subject of learning environments in higher education. Taking into account the students' perspectives, the authors compared several countries' learning environments. Among other aspects, the authors report that in countries such as England, Scotland, Ireland, Sweden and Norway, students are expected to work more independently because the learning environments of these countries place great emphasis on tutorials, projects, assignments and essays to promote opportunities for discussion. In addition, much attention is placed on conceptual learning and the relationship between theory and practice. In countries such as Italy, Spain and Portugal, courses are typically more formal, more crowded, less personal, more passive and more theoretical. Teaching is perceived as being 'very traditional with an emphasis on taking notes' and in some cases, 'learning from notes is more important than reading books' (Wierstra et al., 1999, pp. 89, 90). Furthermore, the teachers in these countries (e.g. Portugal) were considered 'to be authoritarian, impersonal, detached and inaccessible for questions or problems compared to teachers in The Netherlands' (Wierstra et al., 1999, p. 90).

5. Learning outcomes: students' descriptions of accounting concepts

As previously noted, the analysis concerning the accounting concepts focused on whether students would either explain those concepts based on discrete aspects/elements or present a global perspective of the concept in a logical and coherent way (e.g. Lucas, 2001). The analysis also focused on whether a predominant manner of presenting and discussing the accounting concepts would emerge. In line with the literature, it was anticipated that students would also provide explanations in which the two contrasting ways of explaining the concepts coexisted (Lucas, 2001). The categorisation of students' answers

Table 2. The classification of students' explanations about accounting concepts.

Students		Balance sheet	P&L	Financial statements	Cohesive/deep	Fragmented/surface
1	NAS	Cohesive	Cohesive	Cohesive	√	
2	NAS	Fragmented	Fragmented	Fragmented		√
3	**AS**	**Fragmented**	**Fragmented**	**Fragmented**		√
4	NAS	Fragmented	Cohesive	Fragmented		√
5	**AS**	**Cohesive**	**Fragmented**	**Fragmented**		√
6	**AS**	**Cohesive**	**Cohesive**	**Does not recall**	√	
7	**AS**	**Cohesive**	**Fragmented**	**Does not recall**		√
8	**AS**	**Fragmented**	**Fragmented**	**Fragmented**		√
9	NAS	Fragmented	Fragmented	Does not recall		√
10	**AS**	**Cohesive**	**Cohesive**	**Cohesive**	√	

Note: AS: accounting students (entries in bold); NAS: non-accounting students.

regarding the selected accounting concepts is shown in Table 2. Three of the students (Students 1, 6 and 10) adopted, in the main, a cohesive and global approach. Two of them are accounting students (Students 6 and 10) and the third is a management student (Student 1). Nevertheless, Student 6 was not as knowledgeable about financial statements: for instance, she did not relate them to the balance sheet and the P&L account. Indeed, she admitted that she had no knowledge of that concept.

Not all accounting students can provide coherent explanations concerning P&L and financial statements. Indeed, some students admitted they had no knowledge of the concept of financial statements (Students 6 and 7) and other students provided discrete and disaggregated explanations of P&L (Students 3, 5, 7 and 8). Moreover, although all but one student had recently passed the subject, the majority showed negative learning outcomes, which seems to be in line with Lucas (2000). Surprisingly, one of the students who provided cohesive explanations was the only student who did not pass the subject (Student 10). However, he mentioned that he was usually very anxious and suffered from emotional distress as a result. The findings will be examined in more depth in the next subsections.

5.1. Students' explanations of accounting concepts

The accounting concepts that were selected for the interview aimed at collecting students' views about essential concepts taught in the introductory accounting syllabus. These concepts would enable students to discuss and expand their views about aspects related to important accounts/statements concerning, for example, a company's financial status and performance. Moreover, because the accounting concepts were related to financial statements themselves, an assessment was conducted to determine whether the students would indeed relate (and distinguish) these concepts and if so, in what way. The analysis of the students' explanations was carried out while taking into account the official versions of the concepts (see Appendix).

Only two of the students explained all the concepts in a reasonably comprehensive and coherent way. Students 1 and 10 had a cohesive perception of these concepts and presented them confidently. For example, Student 1's descriptions of the official versions were relatively clear and accurate:

> The balance sheet reflects, as a snapshot, the situation of the company at a specific time. A snapshot is static, it represents the company assets at a given moment … the assets, that is, the goods of the company and the money and the machinery, all the goods that the

> company either has and/or controls … on the other hand, we have the liabilities, that are basically the company's obligations to third parties, and the capital […] the capital represents the difference between assets and liabilities, I mean it [the company] would pay all the obligations with its assets, and then it would keep the capital. In other words, in the balance sheet, we have all the assets on the left side and the liabilities and capital on the right side, and these two together equal the assets.
>
> The P&L has to do with the company's performance at a specific time, during a specific period of time … which is usually, let's say a year … for small companies … In there [in the statement], we have the sales account … the revenues and the expenses, and then we deduct from all the revenues all the expenses and we have the result before taxation. Then, taxes are also calculated … and it [the amount of tax] is deducted from the result before taxation … so that we get the net income …
>
> Financial statements … well … besides the balance sheet and the P&L, they also include changes in cash flows and the notes to the accounts [notes to the financial statements] … at least as far as I remember … So, the financial statements are made for those who are interested in the company, external people mainly, those who are interested in the complete analysis of the company.

Although Student 10 does not expand his ideas as much as Student 1, he demonstrates a correct and objective perception of the concepts. He identifies the balance sheet, P&L and cash flow statements as the main financial statements studied in introductory accounting and explains that:

> The balance sheet represents the financial position of a certain company at a particular moment, right? … usually related to the end of the financial year … hmm … well, a balance sheet has on one side the sources and on the other the applications … on one side, the assets, on the other, the capital and liabilities.
>
> The P&L shows the performance of a company … it allows us to see if it [the company] had a good or bad performance in terms of results … The P&L assists management …
>
> The financial statements assist the process of decision making. That is, through the balance sheet, as I told you a while ago, we can see the financial status of the company … if the company has a good level of assets and capital … if it has a good level of assets … then if it has … on the other hand, good results and good cash flow statements, it can be able to have liquidity, right?

In contrast, most of the students provided vague, disaggregated explanations. For example, regarding the balance sheet and the P&L, Student 2 states as follows:

> Good question … now … well … the balance sheet and the P&L … I know it's not exactly this, but to me they are identical … I mean the main goal ends up being the same, I think … in different ways, though.

He continues as follows:

> Well, the balance sheet, I know it's a picture of the situation at that moment, of what we are studying and analysing, the company in question. The P&L, though, ends up, in my opinion, being a specification of what we are working on, I mean, it's more specific than the balance sheet … It may not be exactly this, but … that's the idea I have right now, that the balance sheet aims to 'take a picture' of the company under analysis at that specific moment, and we have information about assets, liabilities, capital, whereas the P&L aims to establish 'one by one', to see in detail how we got to certain amounts, I think it's probably that …

Regarding the financial statements, Student 2 mentions that:

> Financial statements … in a very general way … I think they're not far from the idea of getting results financially speaking, that is, not so much about raw materials and industry but, perhaps, more about financial matters, that is … about … maybe … I've heard about that … and I know what financial costs are … so … it should … financial statements should … because of the name [of the statement] and what I've learned so far … it should be pretty much that. So, when we speak about loans, shares and obligations … it should be around that, I think …

Student 2 admits that he does not remember the concepts. Student 5 claims that she does not know much about P&L because this topic was not sufficiently discussed during introductory accounting classes:

> The P&L, I think it's more about finance. I'm not really sure because I think we didn't develop this aspect of the P&L […] I think it's more of a financial question that has more to do with … a more strategic part of the company […] it's related to … and it's obvious that it has to do with the results that the company can make … either positive or negative … the P&L is one of the topics we didn't really develop in introductory accounting … it was more about the balance sheet.

Indeed, most students neither understand nor recall the concept of financial statements. Some of them mention just one of its components. For example, Student 4 relates the financial statements solely to P&L:

> Financial statements … I think it's the P&L … it tries to assess the company's performance, that is, if it has profit, or if it doesn't. I guess that's it …

In contrast, Student 8 relates financial statements to the balance sheet:

> When people speak about financial statements, the first thing I think about is the balance sheet … When someone speaks about financial statements, I always remember that through the … basically the final result of a company, we can learn about that company and, well, that's what comes immediately to my mind … I immediately think, well, maybe if I check the balance sheet, I can understand a bit of the company. [Interviewer: You relate the financial statements to the balance sheet, is that right?] Yes, that's more like it. Up to now that's the first thought.

Indeed, when answering the question about her view on the P&L, Student 8 makes the following admission:

> The P&L has never been of great importance to me. [Interviewer: And why is that?] I don't know, maybe because I think I have more difficulties in analysing a P&L than a balance sheet itself. [Interviewer: What's the difficulty? Can you explain it?] Well … because, maybe, it hasn't been fully developed [in classes], the P&L […] [the teacher would ask students to] prepare a balance sheet, balance sheet, balance sheet. And because in classes we would study only that one, and because it was unlikely to have to do a P&L in an exam …

This answer also shows that Student 8, like Student 5, argues that if she had discussed that particular topic in more depth in introductory accounting classes, she would have been able to develop and expand her explanation further.

Students 6, 7 and 9 stated that they did not recall what financial statements were:

> I've heard about the concept … hmm … I'm completely … I know I've learned that, I even remember doing an exercise … now … it's a bit more complicated … [Student 6]

> Financial statements, I think it's about revenues … I'm not sure if it's that … wait a moment … I've already spoken about that … at the moment, I can't remember what it is exactly … [Student 7]

> Financial statements it has a lot … to do with … well … at the moment I'm not being able to give you … well, to determine a line that separates … exactly these two contexts [financial statements and P&L] … I know there's a difference … but I can't remember it right now … [Student 9]

Finally, Student 3 displays a vague and inaccurate view of all the concepts:

> The balance sheet is … and the P&L is … roughly, a sum up of everything that goes on in a company during a period of time … balance sheets are usually made at the end of the year … at the end but … the P&L helps the preparing of the balance sheet … we can see, for instance, in the P&L what we have spent and received to try to reduce expenses in order to get more revenues … basically … and the balance sheet … in the balance sheet, we can see the whole situation of the company, if it's doing well or not … and what we should focus on … on assets or liabilities …

> Financial statements … well, isn't P&L one? … In my opinion, it's one of the financial statements … as well as the trial balance … which also helps the balance sheet … that's the idea that I have …

This student also complains about how introductory accounting is taught:

> I think these basic concepts are taught too quickly […] One has an idea of what it is because you practice it … but in theory you cannot really explain what you've done. [Interviewer: You don't feel, let's say, absolutely sure about this concept?] As a concept, I'm not, but in practice … maybe in practice, if I see what it is, I can identify it, for instance a P&L … a balance sheet … but if you ask me to explain what a balance sheet is, to explain the concept of a P&L or the concept of financial statements … all of a sudden I can't. It's not something I can fully explain.

In brief, the balance sheet seems to be the concept that the most students either understand or can explain in a coherent and confident manner. Surprisingly, two of the four students who did not provide cohesive explanations were accounting students (Students 3 and 8). Apparently P&L and (particularly) financial statements are complex accounting concepts that most students had heard about but could neither fully nor partially explain. Overall, there was a predominance of negative learning outcomes regarding concepts related to the preparation of financial statements.

6. Concluding remarks

The literature provides evidence of the influence of the disciplinary context on student learning. Nevertheless, there is little research on this topic in the context of accounting education. Considering that most studies have adopted the use of questionnaires to assess students' approaches to learning in distinctive disciplinary areas, the current study aims to contribute (through the use of interviews) to the literature by exploring patterns of learning and learning outcomes within introductory accounting. It also aims to explore and understand how students in Portuguese higher education experience the learning and study of introductory accounting disciplines. Thus, it applies a phenomenographic approach. This research approach has been frequently adopted within student

learning in general and more specifically, within subject matter with a focus on understanding how students conceive of specific concepts (Ashworth & Lucas, 2000; Lucas & Meyer, 2005). Because one should not assume that the outcome of learning is necessarily reflected in examination marks, learning outcomes were examined through students' descriptions of accounting concepts taught in an introductory accounting syllabus.

Phenomenographic research emphasises the importance of focusing on the students' experience or lifeworld and the importance of exploring these experiences and perspectives to address the topic under investigation (Ashworth & Lucas, 2000); thus, its analysis is usually based on data collected from interviews. The interviews were designed and conducted to allow students to fully discuss and describe their learning experiences (Lucas, 2000). The findings support some of the conclusions reported in the literature and pose several other questions related to the learning and study of introductory accounting and the teaching and learning environment.

6.1. Major findings

It seems that although half of the students (Students 2, 3, 7, 9 and 10) wish to evolve and develop as persons (learning as transforming), they expect this to happen within learning environments in which lecturers will tell them what notes they should take, and they expect that the exams will require only the material provided in those notes and so on (teaching as transmitting). These students seem to value 'learning as transforming', yet they expect to develop their own understanding with the close assistance of 'lecturers who tell them exactly what to put down in their notes' and without, for example, doing extensive reading for themselves. Nevertheless, these findings are in line with the literature, which reports dissonant patterns of learning. In particular, the findings suggest dissonance between students' conceptions of learning and their preferences for teaching. Although the number of students examined in this study does not allow for generalisation of the findings, these findings have been reported in previous analyses with larger numbers of students. Dissonance is a general phenomenon that highlights a mismatch between students' learning behaviour and their perceptions of the learning environment. This result calls for further attention to aspects related to the teaching and learning environment.

It was interesting to note that Student 3, one of the students with the worst learning outcomes (i.e. fragmented explanations), stated that she enjoyed studying accounting. In contrast, Students 1 and 10, who had better learning outcomes (i.e. cohesive explanations), admitted they did not enjoy studying accounting, which seems to contradict the literature that associates enjoyment with both deep learning processes and positive learning outcomes (e.g. Lucas & Meyer, 2005). In the cases of Students 1 and 10, their positive learning outcomes could be related to a questioning attitude when learning and studying accounting alongside the desire to understand the meaning and reality of accounting. A questioning attitude is also related to the development of critical thinking skills, and Students 1 and 10 are amongst the older students examined, at 22 (Student 10) and 23 (Student 1) years of age. In particular, Student 1 suggested that introductory accounting would benefit from non-traditional teaching methods such as active learning (e.g. group activities) instead of lecture-based methods. It appears that he has already experienced this type of teaching in other disciplines and therefore understands its benefits. In contrast, younger students, such as Student 5 (18 years old), Student 3 (19 years old) and Student 8

(19 years old), displayed the worst learning outcomes. Student 3 also notes the significant change she has felt in relation to the learning environment when transitioning from secondary school to higher education. This comment was also made by other students (i.e. Students 2, 5, 6, 7 and 9).

Dissonant patterns of learning were seen at almost all ages, that is, from 19 (Student 3) to 22 (Student 10). These patterns were also seen in different subject areas, that is, among accounting students (Students 3, 7 and 10) and non-accounting students (Students 2 and 9) alike. Nevertheless, Students 7 and 10 had previously studied science. The surface and strategic/surface processes of learning were associated with both accounting students (Students 5, 6 and 8) and non-accounting students (Student 4). Nonetheless, as noted above, Student 5 had previously studied science. Therefore, it is difficult to obtain a clear pattern between students' learning profiles and subject area within the sample. Dissonance seems to be linked to both worse and better learning outcomes, although there is a predominance of dissonant patterns of learning combined with negative learning outcomes (Students 2, 3 and 7).

On the whole, the findings suggest a pattern of poor learning outcomes and surface or dissonant patterns of learning. In contrast, deep processes of learning were linked to positive learning outcomes (Student 1). These findings are consistent with the SAL literature and indicate that teachers should focus on students' patterns of learning to learn more about their learning behaviour and improve their learning outcomes. Although these students are Portuguese, to some extent the results support the findings reported in studies carried out in other countries. There was also a predominance of both surface and strategic/surface processes of learning among female students (Students 4, 5, 6 and 8), which is in line with previous findings.

In addition, students complain about the number of students in classes and that accounting and non-accounting students attend the same introductory accounting classes together. Students argue that this situation negatively influences their learning, claiming that it results in larger numbers of students in the classrooms, thus disturbing their concentration. Large classes also delay classes, because teachers become distracted. The students further claim that non-accounting students were not as interested as they were in learning the subject, causing non-accounting students to be more easily distracted and as a result, disturbing classes. This result is also consistent with Lucas and Meyer (2005), who state that accounting students tend to enjoy accounting more than non-accounting students. It might be the case that non-accounting students are more concerned with understanding the purpose and the wider scope of accounting than with learning about financial statements, accounting rules and other technical aspects of the subject.

Finally, students complain about teachers' behaviour, that is, they feel that teachers behave in an authoritarian, impersonal and detached way. Indeed, it seems that students' perceptions about the learning environment reported in the current study are largely the same as those reported in Wierstra et al. (1999). Moreover, students expressed the wish that introductory accounting subjects would incorporate more active learning activities and fewer traditional teaching methods to establish and create understanding of the link between theory and practice. They also wished for a greater focus on the meaning of the 'numbers' and their impact on a company's life, which is an important aspect to consider within the teaching of introductory accounting. Moreover, some of the students

claim that the basic concepts are taught as if students had significant prior knowledge of accounting, despite the fact that only a limited number of secondary schools currently provide professional accounting courses. Other students specifically mention that some topics are not sufficiently discussed or explained in class (e.g. P&L).

As previously noted, this exploratory qualitative study highlights several other issues within the learning and teaching environment related to introductory accounting. For example, although most students had already passed the subject, they showed negative learning outcomes. Additionally, one of the students who provided cohesive explanations of accounting concepts was the only one who did not pass the subject, which suggests the need for further reflection and discussion about the effectiveness of accounting education and the assessment process within accounting. Moreover, although the learning outcomes considered in this study are based on students' explanations of some of the accounting concepts studied in introductory accounting modules, these concepts are both fundamental and universal. Therefore, despite the fact that the study was carried out in the Portuguese higher education context, the results might be of interest to lecturers, tutors and researchers in countries with similar learning environments (e.g. EU member states) and possibly in countries adopting the IASB accounting standards.

6.2. Limitations of the study and suggestions for future research

One of the limitations of this study is that because of its exploratory nature, it uses a small sample size, thus preventing generalisation of the findings. However, it did provide new insights into issues that had not been previously explored in questionnaires. For example, the interviews allowed to explore students' answers/views about accounting concepts and, thus, gain a deeper, complementary understanding about their knowledge of introductory accounting topics based on their own wording (instead of using a template providing examples of answers as it happens in questionnaires). And, in this way, it also provided insight into assessment issues. Therefore, based on these insights, future research can continue interviewing individuals to enlarge knowledge of these aspects and develop questionnaires to collect empirical data from larger sources of data sets.

In addition, because the selected method for assessing students' learning outcomes involved an analysis of their descriptions of accounting concepts, apart from asking them whether they had passed or failed the subject of introductory accounting, no other questions were asked either about their marks (grading or other assessment criteria) or about the number of different classes or instructors they have had. Because the findings call for further reflection about the assessment process within accounting, future research can investigate students' knowledge of accounting in relation to their marks, which might provide useful data to inform the discussion of assessment practices and examinations.

It would also be of value to further examine the perspectives and feelings of both accounting and non-accounting students related to the learning of introductory accounting and to focus on the teaching approaches of lecturers (e.g. teacher profile and behaviour) to examine the aforementioned aspects. In addition to the use of interviews, future studies could expand the analysis by gathering data from larger samples and from other countries to gain further insights into the topics under analysis.

Finally, the consideration of accounting concepts, such as the definition of accounting, would enable an analysis and understanding of students' perceptions of the nature and

scope of accounting in various programmes. Exploring other categories of description within conceptions of learning and other aspects of learning would also increase our knowledge of students' patterns of learning.

Notes

1. Even after that period, and based on research conducted in 1995 and 1996, Cabrito (2004, p. 43) claims that 'the Portuguese population is not fairly represented among students in higher education. A strong elitist higher education system is thus highlighted'. Additionally, Clancy and Goastellec (2007, p. 149) report the 'highest levels of inequality in access to higher education' in Portugal and 3 other countries in a 27-OECD country comparison. Recently, the OECD's report on education in Portugal shows that this pattern persists (OECD, 2012).
2. The process was carried out within a PhD research project (Teixeira, 2013). Thus, the first author analysed and classified data with the assistance/validation of the second author.
3. In this context, learning things 'by rote' or 'by heart' relates to rote learning or rote memorisation. The Portuguese word used by the two students was 'decorar', in the context of 'decorar a matéria'.

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Appendix: Definitions of the selected accounting concepts

This appendix presents the definitions of some of the accounting concepts examined during the interview process, which are some of the 'authorised' versions of the definitions of the balance sheet, the P&L account and the financial statements. The purpose is not to fully develop them but to provide a summary of the most important aspects related to these concepts. The analysis was primarily based on introductory accounting textbooks (Alexander & Nobes, 1994; Dyson, 1997, 2010; Horngren, Sundem, & Elliott, 1996) and both the IASB and the SNC's conceptual frameworks. Nevertheless, considering the concepts under analysis, the SNC's conceptual framework coincides with the IASB's conceptual framework.

Although the selected textbooks for the current review were published by Anglo-American authors, an overview of Portuguese introductory accounting textbooks confirmed that they adopt the same perspectives, based on both classical definitions and those more recently adopted by the IASB. In addition, the mentioned concepts are explored within introductory accounting courses in Portuguese higher education, regardless of programme or national region. These definitions were the basis for the assessment of students' answers and explanations of the accounting concepts.

The balance sheet, P&L account and financial statements

The balance sheet is one of the major financial statements prepared by accountants:

> it shows the financial status of a business entity at a particular instant in time. The balance sheet has two counterbalancing sections. The left side lists assets, which represent the resources of the firm. The right side lists liabilities and owners' equity, which represent claims against the resources. (Horngren et al., 1996, p. 7)

The items of the balance sheet form the balance sheet equation:

> Assets = Capital + Liabilities. (Dyson, 2010, p. 48)

> Assets = Liabilities + Owners' Equity. (Horngren et al., 1996, p. 8)

As explained in Alexander and Nobes (1994, p. 12):

> … a balance sheet is often defined as a statement of financial position at a point in time. It is a list of sources, of where everything came from, and a list of applications, of everything which the business has got. Since both lists relate to the same business at the same point in time, the totals of each list must be equal and the balance sheet must balance because it is defined and constructed so that it has to balance. It represents two ways of looking at the same situation.

In brief, 'a balance sheet lists what the entity owns and what it owes at the end of the year' (Dyson, 1997, p. 11). In a different way, the IASB's conceptual framework mentions that 'the elements directly related to the measurement of financial position in the balance sheet are assets, liabilities and equity' (IASB, 2012, p. A40, § 4.2).

Another basic financial statement is the P&L account (British accounting terminology) or income statement (American accounting terminology). Indeed, as Alexander and Nobes (1994, p. 17) explain, users of accounting information

> may also require current and ongoing information about the results of the operating activities of the business. It is necessary, to meet these requirements, to collect together and summarize those items which are part of the calculation of the profit figure for the particular period concerned. […] Profit will consist of two sets of elements, one positive and one negative.

The positive part of the profit is referred to as revenue(s), while the negative part is referred to as expense(s) (Alexander & Nobes, 1994). Thus,

> an income statement is a report of all revenues and expenses pertaining to a specific time period. Net income is the famous 'bottom line' on an income statement – the remainder after all expenses (including income taxes) have been deducted from revenue. (Horngren et al., 1996, p. 50)

One can also think of 'income as a measure of the entity's performance in generating net assets, that is, assets less liabilities' (Horngren et al., 1996, p. 53). Decision-makers use the P&L account to 'assess the performance of an entity or its management over a span of time'; this statement shows 'how the entity's operations for the period have increased net assets through revenues and decreased net assets by consuming resources (expenses)' (Horngren et al., 1996, p. 51). For example, 'a net loss means that the values of the assets used exceeded the revenues' (Horngren et al., 1996, p. 51). A briefer definition is provided by Dyson (1997, p. 11): 'a profit and loss account shows whether the business has made a profit or loss during the year, i.e. it measures how well the business has done'. The IASB's conceptual framework mentions that 'the elements directly related to the measurement of performance in the income statement are income and expenses' (IASB, 2012, p. A40, § 4.2). Within this conceptual framework 'the definition of income encompasses both revenue and gains' (IASB, 2012, p. A45, § 4.29); and 'the definition of expenses encompasses losses as well as those expenses that arise in the course of the ordinary activities of the entity' (IASB, 2012, p. A45, § 4.33).

The cash flow statement 'reports the cash receipts and cash payments of an entity during a particular period' (Horngren et al., 1996, p. 53). Then, 'income statements (or profit and loss accounts), balance sheets and cash flow statements are known collectively as the financial statements' (Dyson, 2010, p. 8). Apart from these statements, the financial statements of listed companies within the UK and the EU also include other statements, such as the notes to the accounts/financial statements and the auditor's report (Dyson, 2010). In other words, the IASB's conceptual framework states that 'a complete set of financial statements includes a statement of financial position, a statement of comprehensive income, a statement of changes in equity, a statement of cash flows, and accounting policies and explanatory notes' (IASB, 2012, p. A17, §11).