

# **Student Preconceptions of Introductory Accounting: Galloping Over the Biggest Threshold of them all!**

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## **Abstract**

The study of introductory accounting can prove problematic to students for many reasons, one of which is the formation of negative preconceptions about the discipline. These preconceptions are often reinforced by the university environment and requirements, whereby introductory accounting programmes are mandatory components of many business degree programmes, and are taught to large cohorts of students, using traditional methods of curriculum design, instruction and assessment (Zeff, 1989; Mladenovic, 2000; Lucas, 2002; Leveson, 2004). Students' negative preconceptions are further entrenched through the use of popular media and commonly found stereotypes (Cory, 1992; Unerman and O'Dwyer, 2004), with the accounting profession currently experiencing "a widely perceived ethical breakdown of a trusted fiduciary institution that has been at the epicenter of a number of financial scandals" (Strier, 2006 p. 67). This perception has been further magnified by the recent global financial crisis. Drawing on threshold concept theory (Meyer and Land, 2006a and b), this paper argues that students' preconceptions of the accounting discipline form a major 'preconceptual threshold' in their learning. Through an analysis of phenomenographic data collected from six student cohorts over a three-year period, students' experiences in a first year accounting course are examined to identify the types of negative preconceptions that are found to exist in an introductory accounting course. This initial analysis is followed by an in-depth review of students' reflective work, using the threshold concepts' paradigm to analyse both individual student learning diary entries and summative reflective essays. The findings illustrate that students perceive the identified preconceptions to be troublesome, highlighting the need for a concerted effort to develop positive attitudes in first year accounting students. The paper concludes by considering the role of accounting educators in redesigning aspects of the accounting curriculum to address key thresholds, such as student preconceptions, in order to better assist learners to deal with these barriers and ultimately to enable them to achieve a heightened epistemological understanding of the discipline.

**Keywords:** Perceptual threshold, threshold conceptions, student preconceptions and perceptions of a discipline, transformative learning, phenomenography, accounting education.

## **Introduction**

The study of introductory accounting, encompassing both business language and technical accounting knowledge acquisition, has traditionally proved challenging to students (Weil, 1989; Lucas and Mladenovic, 2006). There is a growing body of knowledge about negative student preconceptions of accounting and the effect this has on introductory accounting courses (Gow, Kember and Cooper, 1994; Sharma, 1997; Lucas, 2000; 2001; Mladenovic, 2000; Lucas and Meyer, 2003; 2005). Lucas (2000 and 2001) and Lucas and Meyer (2005) report that students' negative preconceptions of accounting include perceptions that accounting is boring and dull, a technical subject consisting solely of numbers and mathematical formulae and mainly objective, with no need for judgement. Consequently, many learners fail to fully comprehend the role that accounting plays in society and its varying degrees of subjectivity. It is further argued that these negative preconceptions are often reinforced through the popular media, the use of stereotypes (Cory, 1992; Mladenovic, 2000) and curriculum design (Zeff, 1989; Lucas, 2002; Leveson, 2004).

Drawing on threshold concept theory (Meyer and Land, 2006a and b), this paper argues that students' preconceptions of the accounting discipline form a major 'preconceptual threshold' in their learning. Meyer and Land (2006a) describe this threshold as "represent[ing] a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress. As a consequence of comprehending a threshold concept, there may be a transformed internal view of subject matter, subject landscape or even world view" (p. 3). This 'preconceptual threshold' needs to be identified, entered, explored and overcome with the guidance of educators, to enable the learner to develop informed perceptions and impressions of accounting and to acquire a level of understanding beyond the superficial.

By examining students' experiences in a first year accounting course, this paper aims to outline the type of negative student preconceptions about accounting that exist in an introductory accounting course, Acct 103: Financial Information for Business. This is achieved through an analysis of phenomenographic data collected from six student cohorts over a three-year period. This initial analysis is then followed by an in-depth review of students' reflective work by analysing both individual student learning diary entries and summative reflective essays, using the threshold concepts' paradigm. These findings are corroborated by further document analysis, utilising students' course and lecturer university evaluations and qualitative comments, taken from an administered questionnaire. The findings illustrate that students perceive these identified preconceptions to be troublesome, highlighting the need for a concerted effort to develop positive attitudes in first year accounting students. The paper concludes by considering the role of accounting educators in redesigning aspects of the accounting curriculum to address key thresholds, such as student preconceptions, in order to better assist learners to deal with these barriers and ultimately to enable them to achieve a heightened epistemological understanding of the discipline.

The rest of the paper is organised as follows. Relevant literature on students' perceptions of learning accounting, students' preconceptions of accounting and the threshold concept framework is reviewed next. This is followed by a description and discussion of the background to the research and the research methodology employed. The findings of the study are then discussed and analysed, with the conclusion and limitations presented in the final section.

## **Literature review**

There is an extensive body of education literature which focuses on students' conceptions of and approaches to the learning process and its environment (Bruner, 1960; Ausubel, 1978; Feuerstein, Rand, Hoffman and Miller, 1980; Marton, Hounsell and Entwistle, 1984; Marton and Booth, 1997; Entwistle, 1998; Prosser and Trigwell, 1999; Biggs, 2003; Ramsden, 2003). Within an accounting context, this wide range of research includes areas such as students' perceptions of learning

accounting (Gow, Kember and Cooper, 1994; Sharma, 1997; Lucas, 2001; Lucas and Meyer, 2003; McGuigan and Kern, 2009), students' learning approaches (Ramsden and Entwistle, 1981; Entwistle and Tait, 1990; Trigwell and Prosser, 1991; Eley, 1992; Davidson, 2002; Lizzio, Wilson and Simons, 2002; Byrne and Flood, 2004; Duff, 2004; Hall, Ramsay and Raven, 2004; Elias, 2005; Lucas and Meyer, 2005) and students' learning difficulties (Weil, 1989). These studies have contributed in various ways to providing an insight into the learning process in accounting from a student's perspective (Marton, 2000).

### *Students' perceptions of learning in accounting*

Sharma (1997) reviewed accounting students' approaches to learning by asking them 'What do you mean by learning?' His results proved illuminating in that accounting students perceived learning to be the act of 'acquiring', as opposed to 'understanding', knowledge. Learners were much more willing to accept knowledge via transmission through the 'perceived knowledgeable educator' than they were to engage directly with the learning material itself, in order to create understanding and to construct knowledge. Sharma (1997) further ascertained that students did not become personally involved in their learning, in neither a physical nor an emotional sense; rather they externalised the learning process so that it remained peripheral. Lucas' (2000) phenomenological study into students learning introductory accounting in the United Kingdom supports Sharma's (1997) study by classifying 'how students see the world of accounting' as either, with detachment, or with engagement. Byrne and Flood (2004) confirm the previous findings in a study conducted in Ireland, where the majority of participants describe learning as an 'external process focused on the acquisition and/or application of knowledge' (p. 35).

Research during the 1980s had a fundamental impact on education, by synthesizing students' approaches to learning into either a 'surface approach' or a 'deep approach' (Biggs, 1987a). A 'surface' approach to learning constitutes a superficial understanding, where the learner has the intent to acquire enough knowledge in order to pass a course or to complete a task. The learner relies heavily on techniques designed to cope with content, or to master tasks through memorization and reproduction of material, failing to make vital connections and linkages within the learning material, which would be required in order to gain an enhanced understanding (Biggs, 1987a; Eley, 1992; Ramsden, 1992; Biggs and Moore, 1993; Gow et al., 1994; Sharma, 1997; Booth, Luckett and Mladenovic, 1999; Prosser and Trigwell, 1999). Studies conducted by Biggs and Moore (1993), Booth et al. (1999) and Beattie et al. (1997) found that a surface approach to learning promotes externalization of the learning process, resulting in a lack of engagement by the learner. These findings concur with the accounting-related studies of Sharma (1997), Lucas (2000) and Byrne and Flood (2004). At the opposite end of the learning spectrum, a 'deep' approach to learning is characterised by a commitment to learning and an interest in the discipline. The learner possesses an intention to seek meaning within the course, creating linkages between prior and newly obtained knowledge, in an effort to acquire a thorough understanding of the discipline (Watkins and Hattie, 1985; Biggs, 1987a; Eley, 1992; Ramsden, 1992; Biggs and Moore, 1993; Gow et al., 1994; Sharma, 1997; Booth et al., 1999; Prosser and Trigwell, 1999). This dichotomous classification provided educators with a common language, with which they were able to engage with their students' learning.

A clear relationship has been established in the literature between the learning approach that students adopt and their perceptions of the learning environment (Ramsden and Entwistle, 1981; Entwistle and Tait, 1990; Trigwell and Prosser, 1991; Prosser and Trigwell, 1999; Lucas, 2001). Eley (1992) finds that students are more likely to utilise surface learning approaches when courses emphasise formal achievement, and conversely, deep approaches when independence is encouraged and a clear course structure present. Gow et al. (1994) provide a summary of factors that encourage a surface approach to learning accounting, namely, excessive workloads, the nature of assessment tasks, a didactic teaching style and low staff to student ratios. Sharma (1997) found that factors such as the structure of the course and lectures, the enthusiasm of teaching staff, the generation of a personal learning context,

the provision of student feedback and of direction to students all affect students' choice of their learning approach in accounting. Lizzio, Wilson and Simons (2002) state that students adopt a surface approach to learning when a heavy course workload is present, but argue that such a relationship does not necessarily exist for a deep approach to learning if the workload is perceived as being at an appropriate level. Lizzio et al. (2002) find that quality course facilitation and perceived appropriate assessment relate strongly to the adoption of a deep learning approach by the student.

It is contended that surface approaches to learning, such as rote learning and memorisation, are more readily adopted by accounting students because of the algorithmic nature of recording accounting transactions (Beattie, Collins and McInnes, 1997). With respect to memorization, however, Meyer (2000) identifies differing forms – both deep and surface - in students. Additional work by Meyer (2000), Lucas (2002) and Lucas and Meyer (2003) suggests that a surface learning approach such as memorisation, can be used as an initial step towards gaining understanding. Hall, Ramsay and Raven (2004) support these earlier studies, finding that students can utilise surface approaches to learning whilst engaging with deeper levels of understanding. They state that in accounting “students first must learn terminology, basic concepts and procedures before being able to apply knowledge to novel problems and reflect [on]/evaluate ... the appropriateness of various treatments and methods” (Hall *et al.*, 2004, p.502). Recent accounting educational literature has encouraged the promotion of a deep approach to student learning by a manipulation of the learning environment, such as, the implementation of active learning tools, the use of case studies and reflection activities (Gordon and Debus, 2002; Hall et al., 2004; English, Luckett and Mladenovic, 2003; Cope and Staehr, 2005).

#### *Students' perceptions of accounting*

Students' negative preconceptions of the accounting discipline can prove problematic for accounting educators. This is particularly true for the teaching of introductory accounting courses, which are usually taught in the first year of a business degree, to large student cohorts, comprising multiple areas of interest and follow an often rigid curriculum, dominated heavily by prescribed texts (Zeff, 1989; Mladenovic 2000; Lucas and Mladenovic, 2006). Lucas (2001) and Lucas and Meyer (2005) report that students' negative preconceptions of accounting relate to learning the technique, rather than the organising framework, of accounting. The negative preconceptions include perceptions that accounting is boring and dull, a technical subject, consisting solely of numbers and mathematical formulae and mainly objective, with no need for judgement (Lucas, 2000 and 2001). This can lead students to adopt a learning approach that may result in a superficial and limited understanding of the content within accounting courses (Beattie, Collins and McInnes, 1997; Lucas and Mladenovic, 2006; Meyer and Land, 2005). Learners, consequently, may fail to comprehend the relevance accounting has to their overall business degree and also within their everyday lives, failing to see the transformative link that exists between commonly used financial concepts, such as asset valuation, time value of money and investment risk, in business, and their application to every day personal finance (McGuigan and MacDonald, 2008; McGuigan and Kern, 2009).

#### *A lens through which to clearly view the accounting curriculum*

An emerging theoretical framework, developed by Meyer and Land (2003; 2006a), documents a new perspective on students' levels of conceptual understanding through the introduction of 'threshold concepts', which are based on the premise that certain concepts in a discipline often present students with barriers to learning. Such 'threshold concepts' are described by Perkins (2006) as “pivotal but challenging concepts in disciplinary understanding. They act like gateways. Once through the gate, learners come to a new level of understanding central to the discipline” (p. 43). This distinguishes threshold concepts from core concepts found within a course, as threshold concepts represent more than simply a building block towards student understanding; they are “akin to a portal, opening up a new and previously inaccessible way of thinking about something. It represents a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress” (Meyer and Land, 2006a, p.3). A threshold concept, once mastered by a learner, results in a

“qualitatively different view of the subject matter and/or learning experience and of oneself as a learner” (Kiley and Wisker, 2009, p. 432).

Meyer and Land (2006a) propose five main criteria for a concept to qualify as a threshold concept; namely, that the concept should be transformative, irreversible, integrative, bounded and troublesome. They suggest that a threshold concept is transformative in nature, representing a significant shift in the perception of a subject and a possible shift in learner identity. Secondly, it is probably irreversible, meaning that students who encounter and successfully pass through a threshold concept possess a differing worldview to that held previously and it cannot be unlearned. Thirdly, a threshold concept is integrative, displaying a previously hidden interrelatedness of something to a student. Fourthly, it may represent a boundary in a student’s learning between the academic discipline in which the student operates and that of another. Finally, it is proposed that threshold concepts may be troublesome to the student, that is, counter-intuitive, alien or incoherent (Perkins, 2006). Perkins (2006) develops the concept of troublesome knowledge further by identifying five categories of such knowledge, namely, ritual, inert, conceptually difficult, foreign or alien and tacit.

The transformative nature of threshold concepts means that learners often develop an enhanced interpretive understanding of subject matter, subject landscape or even worldview (Cousins, 2006). Without this transformed means of understanding and viewing ‘something’ the learner may be unable to successfully<sup>2</sup> advance through higher-level education. A learner’s progression through a threshold and the resulting transformative process is not static; it can occur quite suddenly or can take a considerable period of time. This ‘in-between’ stage of development and learning Meyer and Land (2005; 2006b) describe as a state of ‘liminality’, meaning ‘within the threshold’ (Lucas and Mladenovic, 2006). Meyer and Land (2006b) postulate that this liminal state represents a period of oscillation and confusion for learners, resulting in students copying behaviour and languages that they perceive are required of them, prior to gaining a full understanding. In other words a more ‘surface’ approach to learning is adopted, as it feels comfortable and safe to the learner. It is in this state of liminality that accounting students may “feel ‘stuck’, depressed, unable to continue, challenged and confused. “Understanding threshold concepts and the liminal state in [accounting] education can more adequately assist students during this time” (Kiley and Wisker, 2009, p. 432).

Lucas and Mladenovic (2007, p.239) argue that the threshold concept theoretical framework encourages educators to “view current concerns within the curriculum in a different, and productive, way.” Embracing a threshold concept framework allows the educator to review a specific discipline by focusing on the nature of its core concepts, the curriculum and how these are related in educational practice (Lucas and Mladenovic, 2007). Cousin (2007) provides further support for threshold concept theory, highlighting its ability to encourage educators to deconstruct and discuss their specific discipline, as opposed to their educational practice, allowing them to remain within their area of expertise. This facilitates a greater level of reflection and analysis for the lecturer, who is able to conceptualise the discipline in a greater level of detail, discovering its interrelatedness to other disciplines (Meyer and Land, 2006a). Furthermore, the threshold concept framework “provides a context in which academics are able to question their own conceptions, those of the textbook, the narrative nature of the syllabus, and the presence of authorised and alternative conceptual views of their discipline” (Lucas and Mladenovic, 2007, p. 244).

This theoretical framework is strongly aligned with a highly student-centered approach to research, in which the nature of the student’s understanding and approach to learning is emphasised. The framework provides a theoretical lens through which to obtain a deeper understanding of the learning process of introductory accounting students and their associated preconceptions. Furthermore, Davies (2003, p. 13) states that a threshold concept “... offers a theoretical construct that enables the results of phenomenographic studies to be reinterpreted from the perspective of the social construction of disciplines”. The ‘social construction of disciplines’ is achieved through refocusing attention on the

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<sup>2</sup> The term ‘successfully’ is used in this context to represent an adequate level of understanding of the course material in order to progress to and through advanced level study.

nature of student understanding in relation to their respective bodies of knowledge via a holistic field of enquiry with a common dialogue being created between learners, discipline experts and educational developers (Cousins, 2007).

Students' preconceptions of introductory accounting are often ideas or prejudices formed without any real experience or reliable information. These preconceived ideas are reinforced through textbooks written primarily in order to address technical accounting standards and traditional bookkeeping, the popular media and stereotypes (Cory, 1992) and introductory accounting curriculum design (Zeff, 1989; Lucas, 2002; Leveson, 2004). Upon commencement of their academic programme, however, student perceptions become more informed, developing a way of regarding, understanding or interpreting something; a clearer mental impression starts to form. Drawing on threshold concept theory (Meyer and Land, 2006a and b), this paper argues that students' preconceptions of the accounting discipline form a major 'preconceptual threshold' in their learning. This 'preconceptual threshold' needs to be identified, entered, explored and overcome with the guidance of educators, to enable the learner to develop informed perceptions and impressions of accounting and to acquire a level of understanding beyond the superficial (McGuigan and Kern, 2009). To achieve this, educators need to embrace innovative means of curriculum design, teaching and assessment, which challenge student preconceptions of the discipline and facilitate the development of employable skills, in addition to technically-based competencies, in order to promote sustainable learning outcomes in accounting students.

## **Research methodology**

### *Background to the study*

Acct 103, Financial Information for Business, is taught in the first year of a business degree at Lincoln University, New Zealand. The course is mandatory for all accounting major students who wish to satisfy the requirements of the New Zealand Institute of Chartered Accountants (NZICA)<sup>3</sup> and is also a core paper within the commerce degree programme. The aims of the course, which focuses primarily on a decision-user appreciation of financial statements, are to provide an understanding of the basic concepts underpinning the preparation and analysis of financial statements and to apply these concepts to the interpretation and management of accounting data.

As Acct 103 is mandatory in the commerce degree, the course is run three times per annum; once in semesters 1 and 2 and also in January summer school. Approximately 500 students enrol in the course each year, with a roughly equal gender split and an increasing number of mature learners. The student population can be classified into three main groups, namely, accounting major students, agricultural and life science students and students enrolled for other major areas of business study.

### *Development and Implementation of Reflective Journals in Introductory Accounting*

In order to enhance student engagement in the course, a reflective journal activity was developed and implemented in 2008. The activity consisted of two parts - a weekly reflective journal and a single, written assignment. The activity commenced in the first week of lectures, when students were required to compose two learning goals that they would like to achieve from the Acct 103 course. Students were asked to document these in a learning journal that was to be maintained for the duration of the 12-week semester. The learning goals were to be of a personal nature, each being unique to the individual student, in order to encourage ownership of the learning by the student (Woodward, 1998). A number of written examples of possible learning goals were provided to students in lectures, to provide them with some guidance.

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<sup>3</sup> The New Zealand Institute of Chartered Accountants (NZICA) is the professional accreditation body for chartered accountants in New Zealand.

The reflective journal design required students to compose a contribution at the end of each week, containing both a personal reflection of their experience in their educational setting and a discussion of how this might relate to their external environment, for example, their family, personal finances and business practice. The journal entries were required from the students at the end of the week in order to distance them from their immediate setting and encourage more reflection on key issues (Uline, Wilson and Cordry, 2004). Students were provided with reflective practice guidance documentation on the course website, to assist them with the construction of their learning journal entries. This documentation illustrated and described a theoretical framework within which to reflect: describing the experience, analysing it, creating an enhanced meaning and planning action for future learning (Moon, 1999; Kennison and Misselwitz, 2002).

The second component of the reflective activity required students to complete an essay addressing their set learning goals, discussing their reflective journal and overall progress within the course. The written essay required students to provide a summary of their learning through the course, using their journal entries as a foundation. The essay design provided students with an opportunity for a secondary reflective analysis, allowing deeper reflection of their learning over the entire course (Moon 2004).

The reflective essay task was explained to students by being compared with the purpose and nature of a balance sheet within financial accounting. This financial statement offers an insight into an organisation's financial position, clearly depicting its assets, liabilities and its resulting net wealth. Similarly, the reflective essay is designed to provide student with his/her individual learning position, illustrating the student's journey of learning within the course, current progress and aspirations for future academic study.

#### *Research objectives*

The research has two primary objectives, firstly, to identify student preconceptions of introductory accounting within Acct 103 and, secondly, to assess whether these preconceptions of accounting constitute a threshold concept as defined by Meyer and Land (2005; 2006a, b). In order to achieve this, a phenomenographic research approach, which allows the world to be visualized from the student's perspective (Entwistle, 1997; Marton, 1981, 1994; Marton et al., 1984; Prosser and Trigwell, 1999), is adopted. The data collection methods utilized are described in more detail in the data collection and data analysis sections which follow.

A major concern with regard to access to and the interpretation of the perceptions of research participants presents itself within the phenomenography literature (Sandberg, 1994; 1997; Ashworth, 1999; Ashworth and Lucas, 1998; 2000). Ashworth and Lucas (2000, p. 297) therefore argue for the research to "be sensitive to the individuality of conceptions of the world – it must be grounded in the lived experience of its research participants". In so doing, the researcher needs to pay particular attention to the design of the research, undertaking a process of 'bracketing', whereby the individual sets aside his or her own assumptions, as far as is possible, in order to obtain the student's point of view (Ashworth, 1999). In this way, the research reports on 'reality-as-perceived' by the research participants or their 'conceptions' (Marton and Booth, 1997). The research design for this study has taken numerous practical measures, such as, providing a high level of freedom for the research participants to describe their experiences and carefully encoding students' reflective work, in order to distill the emotions and emphases of the participant and ensure that the research is 'bracketed' (Ashworth and Lucas, 1998, p. 302).

#### *Data collection*

Data were collected during a three-year period from 2008 to 2010, comprising of six different student cohorts. Data were collected from three sources, which were used both to identify student preconceptions of introductory accounting and to explore the notion of threshold concepts.

Firstly, data were collected from the class exercise held during the initial lecture in which students' were given an opportunity to document their preconceptions of accounting. As explained previously, students were asked two open-ended questions relating to their perceptions of accounting and their motivations for enrolling in this course. The exercise was implemented at the beginning of the first lecture in the course, in order to obtain the viewpoint of students prior to any course-related exposure.

Secondly, students' reflective essays and journals were examined. Students' essays were re-read and analysed on a word-by-word basis to identify student preconceptions and to outline comments that were related to the threshold criteria propounded by Meyer and Land (2005; 2006a, b). These comments were then highlighted and coded accordingly.

Thirdly, university-administered course and lecturer evaluations were collated and analysed in order to provide a source of corroborating evidence.

### *Data analysis*

To achieve the objectives of this study, two stages of analysis were undertaken. The first stage comprised of the identification of student preconceptions of introductory accounting within the Acct 103 course by an analysis of the data collected at the commencement of lectures for each student cohort from 2008 to 2010.

After being classified and summarized, the collected data were then analysed in terms of the five characteristics of threshold concepts defined by Meyer and Land (2003), namely, that they are transformative, irreversible, integrative, bounded and troublesome.

## **Results and discussion**

The results of the study are discussed and presented in this section. The identification of existing student preconceptions of introductory accounting is presented first. This is followed by a discussion and analysis, drawing on threshold concept theory, describing how students' preconceptions of the accounting discipline form a major 'preconceptual threshold' in their learning.

### *Students existing preconceptions of introductory accounting*

Students' negative preconceptions<sup>4</sup> of the accounting discipline can prove problematic for accounting educators. In order to provide a greater understanding and documentation of students' preconceptions, a written activity for students, to be completed upon commencement of the initial lecture, was introduced into Acct 103. Students were provided with a single page and asked to answer two open-ended questions, namely, 'what do you hope to learn from taking the course?' and 'what is your perception of accounting?' This activity was completed at the beginning of the initial lecture in order to allow students the opportunity to document their thoughts prior to their exposure to course material or to any other influencing factors. The written activity was undertaken for each student cohort from 2008 to 2010.

The students' written answers were read, analysed and coded to create six categories of 'preconceptions of accounting' commonly held in Acct 103. The preconceptions identified were enjoyment, technical language, numerical and objective, boring, fear and difficult. Table 1 lists these categories of preconceptions, together with a description of each category and provides a selection of the most representative student quotes.

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<sup>4</sup> It is important to note at this point the difference between a student's 'preconception' and a more developed and informed 'perception'. The meaning of a 'preconception' used in the context of this study incorporates a conception or opinion that is formed prior to any actual knowledge gained or experience within a tertiary learning context. This can be contrasted with a 'perception', which is defined as a way of regarding, understanding or interpreting something; the formation of a mental impression (Oxford English Dictionary, 2008).

Table 1: Student preconceptions commonly held in introductory accounting

Students' Preconceptions	Preconception Description	Illustrative Student Quotes
Enjoyment	An inherent interest in and/or motivation for accounting.	'I enjoy it, it is interesting' 'Interesting subject' 'It [sic] not that fun but I have to do it for my degree.'
Technical Language	New language that has an emphasis on technical jargon.	'Lots of info & new concepts! Hard for those who haven't ever studied accounting before!!!' 'Quite hard with a lot of complicated language' 'Heaps of new concepts'
Boring	Accounting is dull and uninteresting with very little to offer in the way of excitement or interest.	'That it is a difficult subject to make interesting' 'It is quite boring and factual' 'Dry subject matter. Simple ideas made complicated by use of jargon' 'Challenging and boring' 'Contains useful information, however tends to be less interesting than other subjects'
Fear	An inherent sense of fear towards accounting, resulting in a lack of confidence or interest.	'Sound like this subject is a little bit hard, I'm afraid of it.' 'a lot of work to do by yourself and scary - Heaps of new concepts' 'A bit scary right now!!'
Difficult	Accounting is difficult and challenging.	'Appears that it is going to be difficult. Heard that it is not easy from student [sic] who have done accounting before. However, this is going to be a valuable course' 'Seems from talking to past and present students, that acct 103 is the hardest to pass for a 100 level paper' 'That [accounting] is bloody hard and very stressful' 'I used to study acct 103 3 times and failed. Really shame on it. I felt it is not that hard when I studied during the semester even the exam is not bad. But could not pass at all' 'It's quite hard and confusing.' 'I don't know a lot about acct apart from that it's hard!' 'Pretty hard due to not having done any accounting in the past.'
Numerical and Objective	Accounting involves financial calculations. It is factual and objective with the financial statements being the final product.	'Calculations, define [a] business position' 'The equations are hard!!!' 'That it is a subject or a discipline dealing with the financial figures of a business' 'Full with theories and calculation' 'Number crunching and coming up with solutions for financial information' 'To be able to work out a balance sheet from scratch. To be able to identify odd amounts in a set of accounts or identify problems when the accounts is [sic] not balanced (auditing)' 'My difficulties with maths and lack of background experience with maths and accounting make it more difficult for me'

The results derived from the students' written comments support the findings of prior literature in accounting (Lucas, 2000, 2001; Lucas and Meyer, 2005; Mladenovic, 2000; Weil, 1989) which found that, in the main, students possessed negative preconceptions of accounting. At this early stage in the course, accounting is perceived as being difficult, with an inherent inability to arouse students' interest, requiring a high level of technical mastery. These preconceived ideas or prejudices are often ill-informed, without any exposure to practical experience or to reliable information. Rather, they are borne from public and social media sources, parental influence and commonly held stereotypes, often causing a great deal of misconception.

Upon commencement of their academic programme and exposure to learning materials, however, student preconceptions become more informed, developing a way of regarding, understanding or interpreting something; a clearer mental impression starts to form. Often, during this process in introductory accounting, students' commonly held misconceptions combine with newly presented knowledge to create a barrier to learning that is often difficult for accounting educators to penetrate. Furthermore, a great number of accounting programmes reinforce such misconception through the use of prescribed textbooks written primarily in order to address technical accounting standards and traditional bookkeeping, portraying a strong 'entity' approach to the discipline (Zeff, 1989; Lucas, 2002; Leveson, 2004). Subsequently, failing to address the role accounting plays in society, the level of professional judgement required as an accountant and accounting's inherent subjectivity.

There has been a great deal of concentration within the higher education literature and within university management practice in recent times on the first year in higher education experience and how educators can assist with student development (see for example, Bruinsma and Jansen, 2009; Lupton, 2008). Students' preconceptions acting as a barrier to their learning may be worth further exploration in accounting education in order to better understand the learning process of our students and thus assist in them overcoming such a barrier. In order to achieve a heightened level of insight into the students' experience within introductory accounting, Meyer and Land's (2005; 2006a, b) threshold concept framework was employed as it is clearly aligned with a highly student-centred approach to research in which the nature of the student's understanding and approach to learning is emphasised. The next section analyses student identified preconceptions in Acct 103, utilising Meyer and Land's threshold concept (2005; 2006 a, b) paradigm to inform the question 'could students' negative preconceptions constitute a 'perceptual' threshold barrier in the study of introductory accounting?'

#### *"Perceptual Threshold Barrier" in Introductory Accounting?*

Students' reflective essays and journals were analysed in two parts, firstly in accordance with the preceding student-identified preconceptions of accounting and secondly in accordance with the threshold concept framework. The characteristics of threshold concepts as propounded by Meyer and Land (2005; 2006 a, b) are discussed in turn, using a selection of the most representative quotes from students' learning in Acct 103. Student reflective essay comments were corroborated with students' learning journal entries, data collected at the beginning of the initial lecture and university-administered course and lecturer evaluation data.

#### *Transformative*

A characteristic of a threshold concept is its transformative ability, opening up a new or previously undiscovered way of viewing a discipline. The transformative nature of threshold concepts means that often learners develop an enhanced interpretive understanding of subject matter, subject landscape or even worldview (Cousins, 2006). A student-derived preconception of accounting is its objectivity, numerically and factually based, with prepared financial statements constituting the final output in the accounting process. They do not, on the other hand, perceive accounting to be opinion-based, subject to professional judgement and open to interpretation and subjectivity. A transformative shift in students' learning towards the latter perception of accounting can be illustrated through the following quotes:

- "Accountants actions [a]ffect the community through the values they use and [the] importance they place on items in the financial statements, its not just calculations that are required. The use of judgement in financial statements has more importance."
- "I think my view of accounting and finance has changed during this course. Before it was just all numbers, but now I think I can successfully say that I understand a lot more of what managers need to understand and run a successful business, along with budgeting for that enterprise."

- “In conclusion, at [the] beginning I think accounting and finance are [sic] just a course like mathematic [sic] or statistics but after these three months’ study I realise that in depth. Accounting and finance are not only just paper work but also relate to closely how to run a business successfully.”
- “I think that accounting on the whole is very important to the running of the economy and I am now aware of exactly what this entails. Also the fact to see how the bottom line of companies can be tampered with and the auditing involved.”

Students’ shift in perception from accounting being objective and factually ‘accurate’ to accounting being subjective and opinion-based is transformative, as a student would not view the subject matter of accounting in the same manner again. It opens up a new, previously undiscovered way of looking at the subject, where accounting requires professional judgement and interpretation.

A second commonly held preconception of accounting is that it is boring and mundane, with very little relevance to the learner. This results in frustration on the part of the learner, causing a lack of engagement, as it can often be difficult to see any immediate relevance of the discipline to one’s own life. This transformative aspect of learning introductory accounting can be illustrated through the following student quotes:

- “I have realised there is a lot more to accounting than what meets the eye. I originally thought accounting was all numbers and equations, I have now realised that there is a lot more to it.”
- “At the beginning of the semester, I came into Accounting and Finance for Business (Acct 103) with a huge preconception that the course would be very dry and math-focused. I did not imagine that in the end I would actually enjoy learning about accounting”.
- “My perceptions of this course have definitely changed because I did think accounting would be very boring and I would just do as much as I had to, to pass and no more, but I did do extra reading sometimes when I was in the right state of mind, because I found that part interesting.”
- “What I once perceived to be a mundane and minor subject is actually really interesting and sometimes exciting. And although it may not be something I can use in my area of work in the future in the food industry, I have gained something that is valuable and that helps me understand a bit more about how things work in organisations and businesses.”
- “From what I have learnt in this subject I will be able to apply it when I go home and take over the farm. Budgeting will be a very important factor, as will calculating my performance. The knowledge I have of accounting while not extensive will greatly help me in the future.”
- “I did a one-week budgeting and actually collect the receipts for recording for workshop four. By actually doing it, I realised the usefulness of it.”

It is evident that once students can see the relevance accounting has to their own life, within a business or within society their perception of accounting changes as they become more engaged and take more of an interest with what is occurring within the course. Both examples illustrate a transformation as they “... occasion a significant shift in the perception of a subject” Meyer and Land (2006), p. 7.

### *Irreversible*

A second characteristic of a threshold concept is its irreversibility, meaning that a change of perspective occurs that is “unlikely to be forgotten, or will be unlearned only by considerable effort” (Meyer and Land, 2006, p. 7). The irreversibility of students’ changed preconceptions can be illustrated by reviewing the aforementioned student preconception of accounting as objective, involving many calculations with a single solution. If students are exposed to the view that the practice of accounting is only as good as the valuations and subjective judgements made, or if they begin to glimpse the political influence on accounting, a shift in view may take place, which is

irreversible in that students would not view the practice of accounting in the same way again. It would no longer be possible to view accounting as objective, with a simple right or wrong solution to a problem. This is similarly true for a student's preconception of accounting as being boring and mundane. Once students see the relevance accounting plays to them, businesses or society, they have an element that they can relate to providing them with a deeper or intrinsic interest in the discipline, which may result in enhanced learning benefits:

- “The fact that I am now interested in these things tells me I have gained from being more attentive in class and trying to actually help myself by owning this knowledge, rather than just semi-learning it.”
- “Why don't you show the Enron film in the first lecture – this was brilliant and allowed me to see the impact of accounting on the Californian State, you know with the electricity outages and stuff.”

Irreversibility transforms a learner's identity of himself or herself, as the student will never view the 'world' in the same way again. This is especially true if students can capture this moment in their learning for themselves, perhaps through the use of reflective journals.

Irreversibility of students' preconceptions was also highlighted in students' references to their initial lack of confidence about learning accounting. Once overcome, this learning barrier was irreversible, in that students had renewed confidence in their outlook of accounting:

- “One of the result[s] that I believe for participating in the course is the increase of [sic] my confidence in placing myself into the business world more aggressively.”
- “The workshop program helped build confidence in me. I was reluctant to participate in the group workshop program before due to my lack of confidence in accounting and engaging with people, but now I am more than willing to do so.”

### *Integrative*

A threshold concept is integrative in nature in “that it exposes the previously hidden interrelatedness of something” (Meyer and Land, 2006, p.7). Students often do not attach much relevance to accounting, perceiving it to be the calculation of financial statements and the accurate completion of journal entries - what is commonly referred to as bookkeeping. Students in this course were exposed to a broader perspective of accounting, in which it has a societal role to ensure businesses' public accountability. This previously *hidden interrelatedness* is indicated in the following students' reflective comments:

- “My favourite part of the course was the video documentary on Enron. I really enjoyed this a lot more than I thought I would. It grasped [sic] my attention and kept me watching the whole time. I wish this video was shown at the beginning of the course, because it dramatically increased my enthusiasm for the class. Seeing how Enron worked and failed was a great insight to how important accounting and finance is in businesses. It brought together everything I had learnt over the semester about the importance of reliable financial reports, auditors' reports, laws and regulations and that shareholders and the public can be manipulated if the correct procedures are not followed.”
- “The American financial crisis has somehow opened my eyes wider about the importance of understanding the business structure and how to analyse [the] position of an organisation based on its liquidity. Personally, it is very crucial to me, as I would need this information before signing a job contract with [a] respective organisation upon my graduation.”

The learning resources used in the course, such as the use of film, enabled learners to better understand the role that accounting plays in society. In other words, students began to see accounting's integration into society. Accounting exists in a real world, with a social context that is

influenced heavily by political influences, making objectivity and neutrality of accounting practices very difficult to attain; accounting does not simply exist within textbooks and businesses.

It is evident that students also became aware of the integrative nature of accounting in respect of its interrelatedness with other disciplines and/or topics and its integrative *organising structure* or *framework*, which provides the explanatory rationale for accounting techniques:

- “During the learning process, I found there is a strong relationship between accounting and finance, and I began to understand that there is no independent course; each subject may have some direct or indirect relationships with some other subjects. If I want to study finance well, some basic accounting knowledge should also be relevant to me in order to learn well.”
- “In some regards I wish I had have taken it in my first year as it would have been helpful to understand many of the aspects of the subject that needed to be applied in many of my Farm Management assignments.”
- “However, the positive thing about studying accounting is that once people understand the concepts and the relationships between each statement and know how they work, things will become easier. Understanding is the key issue of learning accounting. [In] Learning accounting [one] does not need to memorize a lot of information or styles.”

Finally, students who have previously seen no relevance in accounting have learnt that accounting relates to a broad business context and to a student’s own personal life, potentially influencing student loans, budgets when flatting and credit card repayments.

- “This course has stimulated my interest in what I previously thought to be a bit of a bland subject. I’m now looking forward to implementing some of my new budgeting skills I learnt to improve my student diet of noodles to something a bit more like ... real food!”
- “I found the valuation techniques to be most useful as I saw how accounting can help me to pay off my credit card debt faster.”

### *Troublesome*

A learner’s progression through a threshold and the resulting transformative process can occur quite suddenly, or can take a considerable period of time. This kind of transformation in preconceptions can often be challenging or *troublesome* to some students. For some, this can involve a heightened level of confusion when students’ misconceptions combine with newly presented knowledge, leaving the students in a *liminal* state (Meyer and Land, 2005; 2006b).

- “But I used to think that accounting is numbers based and there is a correct answer for every problem – now I think that the balance sheet is not correct just because it balances it is open to interpretation and professional judgement but I don’t get the purpose of providing it then?”
- “I didn’t enjoy the areas of balance sheets or income and cash flow statements. I was not all that interested in these and I found them quite hard to understand as they were so similar but yet so different which left me confused a lot of the time. This tells me that I lose interest when trying to learn more tedious subjects like I found this.”

Meyer and Land (2005; 2006b) describe this ‘in-between’ stage of development and learning as a state of ‘liminality’, meaning ‘within the threshold’ (Lucas and Mladenovic, 2006). Meyer and Land (2006b) postulate that this liminal state represents a certain amount of oscillation and confusion for learners, resulting in students copying behaviour and languages that they perceive are required of them, prior to acquiring a full understanding. In other words, a more ‘surface’ approach to learning is adopted, as it is comfortable and safe to the learner. It is in this state of liminality that introductory accounting students may “feel ‘stuck’, depressed, unable to continue, challenged and confused” (Kiley and Wisker, 2009, p. 432).

For others it seems they bring with them a fixed preconception or *attitude* (Ballie and Johnson, 2008) that acts as a block to their engagement and rejects any attempt to change such a preconception.

- “During the course I struggled with the discussions in class the most. I found this time wasting and disruptive, I think that it stops the flow of the class and I found it difficult to get back into the class work and follow the information after a discussion especially because most of the time the discussion periods were too long and most of the class would not be discussing the topic. This for me personally made class difficult and I didn’t want to attend class because I felt I could learn more outside of class, with less disruptions.”
- “It [reflective journals] was a waste of valuable time.”

For a number of students, some of the course concepts proved troublesome to learners, as they were *counter-intuitive* or *alien*. For example, the development of reflective practice as a key skill requirement for professional accountants, the ability to think critically, the ability to apply professional judgement when there is not a sole solution to an accounting problem. Some students felt that the material presented in Acct 103 was not relevant as it failed to conform to their preconception of what constitutes ‘accounting’.

- “No. It wasn't anything to do with learning the content of the course, each week you just write what you did.”
- “The work groups should be more related to accounting and not management. As an accounting course, I feel it didn't focus strongly enough on accounting. The only material I found interesting was the finance section”
- “Making the workshop more relevant to accounting, I found a lot of the content to come from different aspects of commerce e.g. Marketing & business management. This made the workshop seem useless as we were not learning accounting related material.”

For others, the knowledge was *inert*, where students cannot see relevance nor integration. Inert knowledge is troublesome because students need to often learn conceptually difficult knowledge in isolation and then integrate this newly acquired knowledge in a new integrated way. In accounting, this knowledge can often be conceptually difficult, as learners cannot see relevance in the topic or make personal meaning. Inert knowledge was found in students’ reflections:

- “I wasted time on things not related to accounting”
- “Some of the questions made you look at a situation differently and come up with better answers. Other questions I didn't feel had any relevance and I felt like I was wasting my time”
- “I would prefer learning tutorials rather than these groups we do. I find that reinforcing work we have done in class is better for my learning than made up business exercises”
- “I prefer the workshop to complement the lectures. Practicing with exercises rather than hypothetical business workshop. It was too much work to do every week and time consuming that I could have invested in studying the materials from Acct lectures or study any other materials from my other papers”

While others still, found a transformative shift in their preconception of accounting as objective, constituting the calculation of ‘profit’ with a ‘balanced’ statement of financial position to the reality that often in ‘real’ accounting problems there is no correct answer, where an accountants professional judgement will differ amongst professionals to be problematic and at times overwhelming:

- “I do like learning new things but I find it difficult sometimes when I struggle to enjoy the subject and that usually comes from not understanding what is meant to be learnt”
- “To make the questions specific and not so broad”
- “I felt that the workshops were a little disappointing as many times we were unsure as to what to do and how it related to accounting. Many of the questions and things that were required of

us were opinion-based and we were unsure as to how they were to be marked and how they could mark a personal opinion.”

- “I wondered myself if it was actually the writer’s [lecturer’s in writing the course material] intent to be vague and frustrating because that is actually a common occurrence in the workplace, hence the relative industry perspective”

Student illustrative quotes have demonstrated that commonly held preconceptions of accounting can prove problematic for a learner’s successful progression in introductory accounting.

### *Accounting Educators*

Threshold concepts represent critical junctures in a students’ learning journey, Meyer and Land (2006a) describe them as:

“akin to a portal, opening up a new and previously inaccessible way of thinking about something. It represents a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress. As a consequence of comprehending a threshold concept there may be a transformed internal view of subject matter, subject landscape, or even world view” (p. 3).

Although not a threshold concept in a traditional sense – the research data strongly suggests that student-identified preconceptions of the accounting discipline constitute a major barrier to effective and successful student learning in introductory accounting courses.

It appears to be the knowledge and processes<sup>5</sup> of accounting that prove conceptually difficult for students. The processes or ways of thinking in accounting are what Perkins (2006) describes as *epistemes* – “...a system of ideas or way of understanding that allows us to establish knowledge. ... the importance of students understanding the structure of the disciplines they are studying. ... epistemes are manners of justifying, explaining, solving problems, conducting enquiries, and designing and validating various kinds of products or outcomes” (p.42). However, it could be argued, and has been demonstrated through students’ reflective comments, that as learners begin to rethink and readjust their preconceptions of accounting, they enter a ‘liminal’ space where they are confronted with different viewpoints and ways of creating meaning, essential to the *becoming* of an accountant. This transformation in turn creates a change in learner identity as they begin to shed their previously held conceptions of the discipline and start to think like an accountant. We would argue that a *perceptual threshold barrier* exists within introductory accounting that once overcome “a student has a transformed internal view of subject matter” – the accounting discipline (Meyer and Land, 2006).

The process of changing what we know, expect or are aware of means a change in identity as a learner and this is often uncomfortable and confrontational for learners. Student-derived preconceptions of accounting emphasize the *ways of thinking and practising* in accounting, namely, fear, difficulty, calculations and numerically-based and objective, with a common solution. When this belief is challenged through engagement with course material, there appears to be resistance by students. Ballie and Johnson (2008) term this resistance a “fear of uncertainty” (p.137). In this respect, accounting students are similar to engineering students, who are used to a right or wrong answer being provided and are focused heavily on their grades (Ballie and Johnson, 2008). This is illustrated in the following student’s learning experience:

“This course was an absolute waste of time. I have studied accounting at school and wish this course was more relevant to accounting. I learnt nothing in this course. Accounting requires the calculation of profit and the preparation of financial statements and we did

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<sup>5</sup> Lucas and Mladenovic (2006) describe these ‘processes’ as the *organising structure or framework of accounting*, p.153-154. They could alternatively be viewed as *ways of thinking or becoming* in accounting (Ballie and Johnson, 2008).

little practice on this. I want worked examples in tuts that the tutor goes through so that we have something to study for the exam not these reflective journals that have nothing at all to do with accounting.”

As students readjust and rethink their previously held conceptions of accounting, it is up to accounting educators to be aware of and to assist in this difficult transition. This threshold must first be passed before significant new knowledge can be learned. In order to assist with this transition, accounting educators need to recognise, embrace and address students’ preconceptions of the accounting discipline. This could perhaps be achieved through reflective practice, active dialogue and engagement of students. Providing students with the opportunity to reflect on their learning enables them to take responsibility for their own learning and allows them to see a cognitive change in their thought process. The study found evidence of such reflective practice and engagement:

“My journaling experience has made me a reflective student, and the process of reflection is ingrained in my practice now. I know that I will continue to improve my study”.

“I have gained many benefits from writing these journal entries as I can clearly see, in hindsight, how my writing has changed to indicate points in a clearer way. I believe this has told me something about my thinking process in this course as things seem to be a lot clearer.”

“In conclusion, I feel that this course, maybe due to the way it was run or a significant realisation about my work ethic, or both, has been hugely beneficial to me the second time round.”

Engaging students in active dialogue appears to be critical to their successful transition through a ‘perceptual threshold barrier’. This active dialogue takes place both internally, through the completion of critically reflective journal entries each week and their ultimate summation at semester end, and externally, through group involvement, critical class discussion and debate. In course evaluations, students illustrate their learning process:

“At first, I thought that the workshops were stupid and that I wasn’t learning anything, yet now, as I do this reflective summary, I realise that they were a big help. This is because it meant that I had to do something on accounting each week that I may not have done otherwise and it also allowed me to learn off the other members in my group who had more knowledge of the material.”

“I enjoyed helping my fellow group members because I could explain the concepts in a form that they could easily understand, easier than reading through their lecture notes or from a textbook, but it also helped me understand concepts even more and to refresh my memory.”

“I’m also very glad that I have overcome my misconceptions about accounting and in the end turned out to find the course very valuable and enjoyable.”

## **Conclusion**

This paper argues that students’ preconceptions of accounting prove a ‘perceptual threshold barrier’ to their learning in introductory accounting. The research data collected in Acct 103 provides support for previous studies in introductory accounting (Lucas, 2000, 2001; Lucas and Meyer, 2005; Mladenovic, 2000; Weil, 1989) which found that students commonly hold negative preconceptions, viewing accounting as boring, mundane and difficult, a technical subjective with a predominant focus on mathematical calculations and objective reasoning, a course existing in a business environment with very little personal relevance, room for judgement or societal impact.

The threshold concept framework “provides a context in which academics are able to question their own conceptions, those of the textbook, the narrative nature of the syllabus, and the presence of authorised and alternative conceptual views of their discipline” (Lucas and Mladenovic, 2007, p. 244). Accounting educators need to become aware of and understand such thresholds as they occur within the discipline and be prepared to acknowledge and address these in the introductory curriculum in order to better assist students to successfully negotiate their way through a ‘perceptual threshold’. A focus on the thought processes underlying accounting, including its commonly held preconceptions, rather than on the technical content itself, may be a spark to ignite a major shift in how students perceive – and ultimately study – the discipline of accounting. One means of doing this is through allowing students an opportunity to engage in reflective practice. To quote a student,

“I felt this [reflective exercise] was a positive way to engage students in the course and make them accountable for their learning progress. It has been a constructive exercise to ... reflect on learning progress and how my initial thoughts of accounting have developed. At the start of this course, I feared going to an accounting lecture as it was all about numbers, but the numbers are a small part - accounting requires analysis and professional judgement where there is no one answer to accounting practice”

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