Variations in accounting students’ conceptions of learning

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Abstract

Students’ conceptions of learning or preconceived views of what learning means to students have been found to play a significant role in how they choose to approach their learning. This study investigates conceptions of learning held by accounting students in their second- and third-years in university. The study is based on phenomenographic and content-analytic approaches applied to survey responses of 207 accounting students from an Australian university. In the first phase of the analysis we identify 6 learning conceptions. Learning is conceived as: (1) increase of knowledge; (2) understanding; (3) knowledge acquisition for application; (4) a pathway to success; (5) seeing in new ways; and (6) self-development. Compared to similar studies we did not find evidence of the conception ‘learning as memorisation’. In contrast to prior research ‘learning as understanding’ emerged as a lower-order conception of learning in accounting students in this study. In the second phase we find that, after controlling for a range of factors that are likely to affect students’ conceptions of learning third-year students are more likely to adopt a higher-order conception. However, majority of the students, including third year students, continue to adopt low-order conceptions. These findings highlight the need to extend student learning beyond the acquisition of technical skills and knowledge to instil higher-order learning conceptions which underpin the development of generic skills much demanded of professional accountants. As a result, the findings of this study have implications for curriculum and assessment design, and learning and teaching practice in accounting degree programs.

Keyword: Student conceptions of learning, phenomenography, learning context, accounting degrees, generic skills.
1. Introduction

Research in educational psychology for decades has grappled with the question of how students learn. One school of thought is that students broadly adopt one of two contrasting approaches to learning (deep/constructive or surface/reproductive approach) depending on their interpretation of the teaching context together with their own preconceptions and motivations (Biggs, 1987). Students’ conceptions of learning, or preconceived views of what learning means to students, have been found to play a significant role in how they choose to approach their learning (Dart, et al., 2000; Edmunds & Richardson, 2009; van Rossum & Schenk, 1984). Gibbs (1995, p.23) argues that the “connection between these underlying conceptions of learning and the approach students take to specific learning tasks is so strong that it is possible to predict the quality of learning outcomes directly from students’ conceptions of learning”. Evidence of this relationship between conceptions of learning and learning outcomes has been well documented (e.g., Bliuc, et al., 2010; Crawford, et al., 1998; van Rossum & Schenk, 1984). Accordingly, lower level conceptions of learning lead to adoption of surface approaches to learning and consequently inhibit students’ achievement of satisfactory learning outcomes. Although students’ conceptions of learning are considered to be relatively stable, research has shown that learners’ prior experiences, shaped by culture and the learning-context, seem to influence these conceptions (Eklund-Myrskog, 1998; Tynjälä, 1997). This research highlights that learning and teaching interventions can bring about changes in students’ conceptions of learning. Knowledge of variations in students’ conceptions of learning is important for educators to devise appropriate learning and teaching interventions that are capable of addressing misconceptions about the nature of the subject and learning at large (Lucas & Meyer, 2005). The research reported in this paper is motivated by the desire to enhance the quality of learning and teaching of accounting student by understanding their conceptions of learning.

Students with lower-order conceptions of learning are unlikely to achieve high quality learning outcomes (Bliuc, et al., 2010). Accounting students that conceive learning as acquisition of knowledge or memorisation will strive to learn facts and processes in accounting. Although this may result in the mastery of technical knowledge, such students cannot develop generic skills required of accounting graduates. In the field of accounting employers place greater emphasis on skills such as communication, teamwork, leadership, problem solving, analytical, self-management and interpersonal when recruiting graduates.
(De Lange, et al., 2006; Tempone, et al., 2012). For these skills to manifest in a student, learning needs to be conceived more broadly as processes aimed at understanding meaning and self development. The accounting profession and industry claim that many accounting graduates lack these important skills, competencies and attributes (Jackling & Watty, 2010). Accounting firms, especially in the top tier, are now keener to train non-accounting graduates who demonstrate strong generic skills with the technical skills required for accounting work (Evans, et al., 2010; Shyan, 2007). In support of such a move, professional accounting bodies such as CPA Australia is easing access for non-accounting graduates to obtain professional accounting qualifications. These developments indicate the urgency to review curriculum, teaching and assessment in university accounting courses to create learning and teaching environments that are conducive to the development of higher-order learning conceptions. However, such action cannot be initiated without evidence based research on variations in accounting students’ conceptions of learning.

Identification of conceptions of learning has to be carried out within the confines of an academic discipline as epistemological differences exist among disciplines (see, Duff & McKinstry, 2007; Eklund-Myrskog, 1998; Meyer & Eley, 1999; Ramsden, 2003; Tsai, 2004). Prior research shows differences in students’ conceptions of learning based on the broad academic discipline as well as sub-disciplines within them (Edmunds & Richardson, 2009). Within accounting, relatively little research has been conducted on how students’ conceptions of learning are constituted. Further, the existing studies have not considered differences in the learning contexts in the different stages of an accounting degree program.

Research shows that students’ conceptions of learning vary across different learning situations, even within the same domain of knowledge, due to factors associated with the learning context and learners characteristics. Prior research has found differences in the variation in conceptions of learning based on factors such as mode of learning [e.g., online versus face-to-face (Ellis, et al., 2008; Tsai, 2009) and distance education (Makoe, et al., 2008)], learning and teaching methods (e.g., problem based learning, blended learning) (Bliuc, et al., 2010; Ellis, et al., 2008) and learning tasks (e.g., writing and discussion) (Ellis, 2004; Ellis & Calvo, 2006). In addition students’ gender and age cause variations in conceptions of learning (Edmunds & Richardson, 2009; Lucas & Meyer, 2005). As the learning context tends to vary when one progresses through his/her academic studies their conceptions of learning over the period of the degree program may differ. Minasian-
Bateman et al. (2006) found that a semester of study increased the percentage of biochemistry students with a cohesive conception of learning. Also, Lin and Tsai (2011) observed that university students in higher grade levels displayed more higher-order conceptions of learning than the freshmen. They attribute this finding to the extent of professional courses in management available at higher grade levels. The professional level courses were designed to develop sophisticated management thinking.

In an accounting degree program important contextual differences exist between second and third year studies. Most third year units build on the principles and conceptual understanding gained in the first and second year units. These third year units encourage students to challenge the theoretical assumptions that underpin those concepts and principles. Also, these units require students to work in groups as well as tackle practical problems with greater complexity. One would expect therefore that such learning tasks have the potential to upgrade accounting students’ conceptions of learning. As a result, it can be expected that students have more developed conceptions at the end than at the beginning of the degree program. While the existing studies identify a prevalence of lower order conceptions of learning in accounting students in their second year (Byrne & Flood, 2004; Sharma, 1997) there is no evidence that third year studies lead to higher order conceptions of learning. An understanding of this phenomenon would have implications on curriculum and assessment design, and learning and teaching practice in accounting degree programs.

One of the main limitations in prior studies on accounting students’ conceptions of learning, is not controlling for the impact of characteristics of the learner, such gender, age, cultural background etc. and the learning context. Prior research documents the impact of these factors on students’ conceptions of learning in general (e.g., Edmunds & Richardson, 2009). This study extends this literature by identifying the learning conceptions of accounting students and investigating the extent to which the differences in the learning context in the second and third years of an accounting degree program effect accounting students’ conceptions of learning.

2. Conceptions of learning

Seminal work on students conceptions of learning has been attributed to Perry (1970) and Säljö (1979). Säljö (1979) identified 5 distinct conceptions of learning. The first conception characterises learning as increase of knowledge. The second one was similar to the first one
but differed in its emphasis on memorising and recalling. According to the third conception, learners placed importance on being able to retain and utilise the acquired facts and procedures. Learning was seen as abstraction of meaning in the fourth conception. The fifth conception characterises learning as an interpretative process aimed at the understanding of reality. Van Rossum and Taylor (1987) (cited in Richardson, 2011, p. 292) observed a sixth conception that they characterised as ‘a conscious process, fuelled by personal interests and directed at obtaining harmony and happiness or changing society’ (p. 19). Marton et al. (1993) too identified a similar sixth conception which they described as ‘changing as a person’. It is commonly agreed that these conceptions can be contextualised as forming a hierarchy depicting a developmental trend of cognitive engagement (Marton, et al., 1993; Purdie & Hattie, 2002). These six conceptions have been widely accepted as describing general variations in conceptions of learning, having been observed in various educational settings.

The first three conceptions are viewed as lower-order conceptions which characterise learning as increase in knowledge rather than understanding, and is referred to as a quantitative learning orientation. In contrast conceptions 4 – 6 seek understanding or meaning, reflecting an interpretive/reconstructive view of learning, and is referred to as a qualitative learning orientation (Biggs, 1994; Purdie & Hattie, 2002). Morgan et al. (1982, p.111) explain that according to the lower-order conceptions, learning is seen as a passive activity whereas higher-order conceptions ‘lead to interpretations of the learner’s reality’. It is argued that each conception subsume all conceptions below it in the hierarchy (Marton, et al., 1993), and learners move up the hierarchy as they become mature learners.

Although there is considerable research evidence supporting the existence of a hierarchy of six conceptions its universal applicability has been challenged by later research conducted in non-western countries. Research, particularly involving Asian students, has revealed new conceptions that had not originally been observed in studies conducted in Western countries. In a study involving Chinese postgraduate students, Pratt (1992) observed a conception which characterised learning as ‘fulfilment of responsibility to society’. Purdie et al. (1996) found three new higher order conceptions among Japanese students - ‘learning as a duty’, ‘learning as a process not bound by time or context’ and ‘learning as developing social confidence’. In explaining some of these conceptions Gordon et al. (1998) posit that the collectivist orientation in Asian cultures permeates into socially mediated conceptions of learning.
Contextual variables that influence conceptions of learning are not limited to cultural factors. The academic discipline itself can play an important role in shaping students’ conceptions due to discipline related idiosyncrasies as shown by Eklund-Myrskog (1998) and Tynjälä (1997). Therefore, in order to improve learning and teaching in a specific domain of knowledge it is important to understand the variations in students’ conceptions of learning in that domain. Limited research exists on accounting students’ conceptions of learning. Sharma (1997) investigated the conceptions of learning of second year accounting students in an Australian university. This was conducted within a larger study exploring the influence of the learning-teaching context on approaches to learning. Based on a phenomenographic analysis of the written responses to the question “what do you mean by learning” Sharma identified 5 conceptions of learning: (1) learning as memorising and reproduction of knowledge, (2) acquisition of knowledge, (3) application of knowledge, (4)gaining insight and understanding and (5) interpreting reality of constructing meaning. These conceptions closely resemble the conceptions identified in Säljö’s (1979) seminal study. The most notable finding of Sharma’s (1997) study is that 80 per cent of the accounting students held reproductive or lower-order conceptions of learning. The majority of these students conceive learning accounting as ‘acquiring knowledge’ or ‘acquiring knowledge for the purposes of application’. He explained that most of these students were highly syllabus-bound, and preferred structured and highly organised courses and precise instructions. It was noted that students externalise learning and consider increase in knowledge to be quantitative. Sharma conjectured that, since the accounting students were not anchored at either of the extreme conceptions, third-year studies in accounting can be tailored to improve learning conceptions to achieve intended learning outcomes.

Byrne and Flood (2004) focused on conceptions of learning of second year undergraduate and postgraduate accounting students at an Irish university. Adopting a similar data collection approach to Sharma (1997), they observed the five conceptions Säljö’s (1979) identified and the sixth conception Marton et al. (1993) added in their student sample. Consistent with Sharma (1997), the majority of the undergraduate students in this study demonstrated lower-order (or reproductive) conceptions of learning. However, the percentage of students with higher- (lower-) order conceptions was more (less) than in Sharma’s (1997) study. Also, they found that considerably more postgraduate students than undergraduate students demonstrated higher-order conceptions. Whilst acknowledging the intellectual maturity of postgraduate students, the authors attributed their finding to the learning context in
postgraduate courses, which encourage greater interaction and engagement with learning activities. However, the authors provide little evidence to support this assertion.

Lord and Robertson (2006) classified third year accounting students’ conceptions of learning according to Marton et al.’s (1993) framework. Data was gathered using a questionnaire with five open ended questions asking students to explain: (1) what is learning; (2) how they usually go about learning; (3) the role of the lectures in their learning; (4) how learning in a tutorial differs from their learning in a lecture; and (5) the role of the lecturers. Sixty three per cent of the students demonstrated lower-order conceptions, adding to the findings of prior studies that the majority of accounting students tend to perceive learning quantitatively in terms of knowledge acquisition, reproduction and application. However, the proportion of students with lower-order conceptions was less in this study compared to Sharma (1997) and Byrne and Flood (2004). This disparity was attributed to the higher year level of the students in Lord and Robertson’s (2006) study.

3. Research questions

Informed by prior literature, this study attempts to address research gaps, through the following research questions:

1. What are the variations in, and relationships between, accounting students’ conceptions of learning?
2. Do accounting students’ conceptions of learning differ by year of study to the extent that the learning contexts are different between the year levels?

4. Research design

Consistent with much of the prior work on students’ conceptions of learning, a phenomenographic approach is adopted in this study. Marton (1986, p.31) explains phenomenography as “a research method for mapping the qualitatively different ways in which people experience, conceptualize, perceive and understand various aspects of, and phenomena in, the world around them”. As human experience is a product of the interaction between the experiencer and the phenomenon being experienced, variations in ways of experiencing are considered to be logically related through the common phenomenon experienced (Åkerlind, 2012). phenomenography enables the researcher to identify a set of qualitatively different but structurally related categories of description of ways of conceiving
learning (Marton & Booth, 1997). This set is referred to as the ‘outcome space’ in phenomenographic research. The outcome space describes the full range of possible ways of experiencing the phenomenon in question, in this case students’ conceptions of learning, at a particular point in time, for the population represented by the sample (Åkerlind, 2012)

Gathering of data for phenomenographic analysis is generally carried out by way of interviews with students or asking open-ended questions within surveys. In this study we used a questionnaire survey which included several demographic questions and three open-ended questions\(^1\): (1) what does learning mean to you; (2) what does good teaching mean to you; and (3) what does it mean to apply what you have learnt. The questionnaire was administered to undergraduate students studying Accounting and/or Finance in a metropolitan university in Melbourne. A total of 1150 questionnaires were distributed and 285 questionnaires were returned. However, the response rate for this study cannot be established accurately as many students would have received the questionnaire more than once, due to being enrolled in more than one accounting unit over the period of the survey. Nonetheless, students were asked to respond only once.

Seventy eight questionnaires could not be used in this study because: they did not contain responses to some of the demographic questions; the respondents were not majoring in accounting/finance; or responses to the open-ended questions were not provided in such a way to be classified in to a conception category. This resulted in 207 useable questionnaires. Table 1 highlights the demographics of the sample. The sample of this study is almost equally distributed between male and female respondents. 100 respondents (48.3%) stated English as their first language while 42.5% of the respondents were from non-English speaking backgrounds. 19 respondents did not indicate their first language. The sample predominantly consisted of full-time students (90.8%), which is typical of on-campus studies. 44.4% of the respondents were enrolled in the degree program on the basis of their high school qualifications. The others have used alternative pathways, such as Technical and Further Education (TAFE) qualifications. On the year of study variable, 57% of the respondents were undertaking predominantly second-year units and the remainder (43%) predominantly third-year units during the semester.

\(^1\) The study reported in this paper is part of a larger research project on student experience. Hence, the questionnaire comprised other questions which do not form part of this study.
The first stage of analysis of this study involved generating categories of description constituted by the researcher to represent the full range of variations in students’ conceptions of learning within the sample group. The responses to the questions on learning, teaching and applying were used to generate the outcome space for conceptions of learning. In phenomenographic research individual responses cannot be interpreted in isolation to others. Interpretation should be done in terms of similarities to and differences from other responses requiring each response to be interpreted within the context of all the responses taken together as a whole (Åkerlind, 2012). In order to achieve an understanding of the whole a preliminary reading of all survey responses were undertaken without making any attempt at deriving categories of description. Unlike some of the prior work we did not intend to impose categories of description identified by prior phenomenographic research, but let them emerge from the data in relationship with the researcher.

The survey responses were read for the second time to derive an initial set of categories of conceptions and to ascertain the structural relationships between them. Åkerlind (2005) argues that structure and meaning should be co-constituted in phenomenographic analysis. Going a step further from the traditional phenomenographic approach a third reading was conducted to classify the responses into categories so that each student can be identified with a particular conception of learning. This classification exercise took the form of a meaning oriented content analysis. Eleven questionnaires had to be excluded at this stage due to responses not being phrased clearly enough to facilitate classification into a category. This resulted in a sample size of 196. Nonetheless, those questionnaires were still included in the phenomenographic analysis (i.e. building the outcome space) as they formed the context for deriving categories. In some cases a student demonstrated the presence of more than one category of conception. It was decided to classify such students to the highest category demonstrated. For instance, one student expressed her ideas as “learning to me means actually gaining reliable knowledge that is going to be useful to me in my field of work”. It shows that this student conceives learning as increase of knowledge. But it emphasises the importance of being able to apply that knowledge. Hence, rather than classifying into the “increasing in knowledge” conception her response was classified into the “application” conception.

<Insert Table 1 about here>
The third reading helped the initial taxonomy of conceptions of learning to be fine-tuned. This involved merging and redefining some of the categories derived initially. The final set of conceptions of learning comprised 6 main categories with 19 sub-categories nested within them. Marton and Booth (1997) recommend that the outcome space should parsimoniously describe the ways of experiencing the phenomenon with ‘as few categories as is feasible and reasonable to capture the critical variations’ (p.125). In our study, each main category is clearly distinct from others and the subcategories within each of the main categories show only slight variation from others in the same group. The survey responses were read for the fourth and final time - this time only within the context of the responses classified into the same main category. This reading resulted in some minor reclassification of responses. It was mainly because the classification had to be consistent with the meaning of not only the sub category it belonged but also the main category. The final reading also helped in confirming the structural relationship between the main categories of conceptions.

The use of inter-coder agreement to demonstrate reliability of the data generating process is inappropriate in phenomenographic research. As Åkerlind (2012) points out, the outcome space is generated from the analysis of the responses of all participants in the sample, not on the basis of an individual response. However, as the present study also involved classifying each response into a conception category, a second coder was used to verify the final classification of responses.

5. Results

5.1. Results of the phenomenographic analysis

Our phenomenographic analysis revealed six qualitatively different conceptions of learning. These conceptions are characterised by the categories of description given below.

Conception 1: Learning as increase of knowledge

In this conception, learning is characterised as acquisition of new knowledge or increasing knowledge by various means. There is an emphasis on acquiring new information that was not already known in order to enhance knowledge. Students explained this view as: “information download”; “absorb new material”; “finding out new stuff and incorporating into my mind”; “being introduced to new concepts…” or “having greater knowledge of subject matter after being taught it”. However, what was being acquired is not limited to information about topics and subjects but extended to new techniques, new ways of
calculating, new methods and new experiences. This conception reflects a quantitative view of learning, where learning is characterised as progressively adding new knowledge to an existing base of knowledge or moving from a stage of not knowing to knowing. As one student explained:

Learning to me is gaining knowledge on something, [I] previously had little or no knowledge about. It is also about furthering and expanding my knowledge on all kinds of topics.

According to this conception, the knowledge is not limited to theoretical knowledge gained from text books or other learning material. Acquiring practical knowledge or new skills was also highlighted. While some students emphasised the importance of being taught, others also mentioned acquiring knowledge by practical means.

Conception 2: Learning as understanding

We found that remembering and retaining, two features that are closely associated with lower order conceptions, were linked to ‘understanding’ by students. Therefore, the meaning of understanding here is not at a higher-level as ‘abstraction of meaning’ described by Marton et al. (1993). It characterises a reproductive orientation:

Learning to me means researching any topic and actually understanding it, rather than researching a topic and then forgetting what you have learned after you pass the subject.

Learning is to study the information provided, understanding it.

Finding out about a new topic to the point of understanding it enough to explain [it] to someone else.

The distinction between this conception and Conception 1 lies in the process of internalising knowledge associated with understanding:

Absorbing new knowledge, whilst also understanding it at the same time.

Absorbing new knowledge, until I understand it.

Learning means absorbing new information that you are receiving.

Understanding is perceived by students as an activity that extends beyond acquiring of knowledge. It requires the learner to advance from being a passive receiver of information to an active participant in learning. It is achieved by different means, such as learning the relationships between concepts, knowing how fragmented concepts fit into the bigger picture,
relating to one’s pre-existing knowledge, practicing, and applying one’s self to a learning situation.

**Conception 3: Learning as acquiring knowledge for application**

This conception is structurally related, but hierarchically superior, to the previous two conceptions as there is an emphasis on application of knowledge acquired or what was understood. Hence, there are two main variants in this conception. The first links acquisition of knowledge to application and the second connects understanding with application.

Learning to me means actually gaining reliable knowledge that is going to be useful to me in my field of work.

To find out about new things that I'm interested in and that will relate to my future career path.

Know and use it.

Understand any specific topic and research in depth about it to the point to be interested in it and have it completely understood; then apply what we've figured out about this topic in real life situations.

Also, there are variations in this conception based on the type of application. The most basic application of knowledge was passing examinations. Some students emphasised acquiring knowledge to secure career opportunities. The qualifications gained as well as skills learned are seen as the vehicle for this. Another variant of application is being able to use what has been learned in future employment. Application is also related to utility in daily life, contribution to the workforce, solving problems, preparedness to tackle issues and decision making.

Learning to me means actually gaining reliable knowledge that is going to be useful to me in my field of work.

Learning is [gaining] understanding of things so that it can be used in a productive way.

Gain new knowledge and experiences to be used in future situations and everyday thinking and debating.

Learning means understand the purpose and function of material that we've studied and know how to apply it in everyday life.
Conception 4: Learning as a pathway to a successful life

In this conception learning is viewed as having a broader purpose than applying knowledge and understanding to employment tasks and real-life scenarios, which was the focus in Conception 3. Learning is conceived as a means to a successful life and ultimate happiness. The range of responses falling into this conception included:

Learning is not just going through what is written in your notes or books. It’s more about the practical knowledge you can gain from different sources which in turn will help you excel in whatever you do in the future.

Learning is the basis of all important things in life. To learn is to gain more knowledge. For people to succeed in life, this is imperative.

Ability to make informed decisions. Exercise to your brain. Improve your social status.

Knowledge => in personal life, knowledge is power.

Conception 5: Learning as seeing in new ways

This is a higher order conception which characterises learning as a process aimed at changing one’s way of thinking or developing alternative perspectives on phenomena. The focus has now shifted away from the object of learning (e.g., a topic or a concept) to the purpose of learning (e.g., understanding the phenomena). Students with this conception often highlight making sense of phenomena within its broader context:

Learning is doing whatever it takes to make sense of a subject within the context of the world as it is. Not as it is taught.

This could be achieved through assignments which are applied to real life situations and are based on events which are currently affecting the world around us i.e. economy, pollution, poverty etc. Not only does this approach better help students to understand the subject but it exposes them to the bigger picture.

Gaining knowledge to better understand how and why [the] world works.

In this conception learning is personalised as it shapes opinions and perspectives about oneself, others and worldly phenomena:

Learning involves gaining knowledge in order to make an opinion. It makes you think about things so you can make a judgement.

To be inspired, broaden one's existing knowledge, open to other peoples’ opinion

Letting me… predict what might likely happen in the future.
Conception 6: Learning as self-development

In this final conception the central focus is the learner itself. Learning is conceptualised as a process for preparing the learner for the real world by having him/her equipped with necessary life skills (rather than career skills):

Learning is a process in life to prepare an individual for the real world outside.

An important aspect of this conception is the emphasis placed on continuous self-development. Being able to adapt to change, engage in life-long learning, and character and personality development are among the things highlighted by students sharing this conception. The following are examples of responses which form this conception.

Learning to me, means that I can become a better person. It will not only give me more opportunities in the work place but also opportunities to develop as a person.

Learning means a lot to me. I don’t know where I would be without learning. I learn for personal and professional growth.

Help me become a knowledgeable person. Self-improvement. Self-satisfaction. Seek for my potential.

5.2. Distribution of students’ conceptions of learning

We classified students according to their highest conception of learning. Student responses were also classified into sub-themes within the main conceptions. The categories of descriptions explained in the previous section were used to code individual responses. Table 2 shows the frequency of occurrence of each conception of learning within the student sample.

<Insert Table 2 about here>

The most commonly occurring conception of learning in accounting students was ‘increase of knowledge’. The next most commonly occurring conceptions were the remaining two lower-order conceptions. The lower-order conceptions as a group account for 71.43% of the students’ responded to the survey. Only 56 out of 196 students (28.57%) expressed higher-order conceptions. The least commonly expressed conceptions were ‘seeing in new ways’ and ‘self-development’. They were found in 15 and 16 students, respectively.

5.3. Differences between second and third year students’ conceptions of learning
Table 3 shows the actual count and expected count for each conception of learning for students in their second-year and third-year. Compared to the expected counts, more second-year students and less third-year students expressed learning as ‘increase of knowledge’ and ‘application of knowledge’. Both of these are lower-order conceptions. This shows that second-year students are more likely, and third-year students are less likely, to have lower-order conceptions. However, on ‘learning as understanding’, the actual count was slightly less than the expected count for second-year students, showing an inconsistency with the pattern observed for the other two lower-order conceptions. Looking at higher-order conceptions, compared to the expected counts, less second-year students and more third-year students expressed learning as ‘a pathway to achieving a successful life’ and ‘seeing in new ways’. However, less third-year students and more second-year students than expected saw learning as ‘self-development’. This observation is inconsistent with the observed pattern for the other two higher-order conceptions. Observing the distribution of conceptions of learning by year of study, second-year students were more likely to have two of the three lower-order conceptions, while more third-year students were more likely to have two of the three higher-order conceptions.

<Insert Table 3 about here>

In order to address our second research question, i.e., whether the accounting students’ conceptions of learning differ by year of study, we conducted a Pearson’s chi-squared test. The results reveal that there is no statistically significant difference between second- and third-year students in relation to the conceptions of learning adopted ($\chi^2 (5) = 7.990, p = 0.157$). Therefore, we cannot reject the null hypothesis that students in their second-year are not any more or less likely than students in their third-year to adopt one of the six conceptions of learning.

Nonetheless, the differences between second and third-year students highlighted by Table 3 when conceptions were classified into lower- and higher-order warrant further investigation. As a result we conducted a Pearson’s chi-squared test with students classified into the two conceptions: lower-order (conceptions 1-3) and higher-order (conceptions 4-6). The test revealed that the difference between second- and third-year students was statistically significant ($\chi^2 (1) = 4.046, p = 0.044$).
Next we tested whether a student’s year of study can predict the likelihood of adopting a high- or lower-order conception, after controlling for other factors that are likely to affect students’ adoption of a particular conception of learning. We conducted a multivariate logistic regression analysis, using conception of learning as the binary dependent variable, year of study (third-year or second-year) as the key independent variable, and four dichotomous covariate control variables: study mode (full-time or part-time), gender, first language (English or non-English), and entry qualification (High School Certificate or Technical and Further Education qualification). First language is used as a proxy for Western/non-Western cultural orientation. The results of the test are presented in Table 4. The test of the full model with all five predictor variables against a model with only the constant was statistically significant, $\chi^2 (5, n = 114) = 16.487$, $p = 0.006$. The Nagelkerke $R^2$ statistic of 0.192 indicates that the model adequately fits the data.$^2$

<Insert Table 4 about here>

The results presented in Table 4 show that students’ year of study and gender are the only predictors that are statistically significant ($p<0.05$) in distinguishing between adopting a higher-order conception from a lower-order conception. The positive odds ratios indicate that a student being in third-year increased the likelihood of adopting a higher-order conception. Holding other variable constant, the odds of having a higher-order conception are 3.443 times higher for a third year student than a second-year student. The odds of adopting a higher-order conception for a female are 0.308 times the odds of adopting a higher order conception for a male, when other variables are held constant.

6. Discussion and conclusion

This study aimed to understand accounting students’ conceptions of learning and how they might differ based on year of study. Our phenomenographic analysis revealed six qualitatively different but hierarchically related conceptions of learning: learning as (1) increase of knowledge; (2) understanding; (3) knowledge acquisition for application; (4) a pathway to success; (5) seeing in new ways; and (6) self-development. These conceptions are

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$^2$ The sample reduced to 114 with the inclusion of the entry qualification variable as it excludes all students entering through pathways other than completion of high school or technical and further education qualifications.
aligned with those described in Säljö (1979), Marton et al. (1993) and van Rossum et al. (1985). They also align well with findings in Sharma (1997) and Byrne and Flood (2004) in relation to accounting students. Nonetheless, differences exist. In contrast to these studies, we did not find any student who conceived learning as memorisation in our phenomenographic analysis. A new lower-order conception observed in the present study is ‘learning is understanding’. Although some references to memorisation were observed within this conception, they were more closely linked to understanding. Sharma (1997) classified the conception ‘understanding’ as a higher-order conception as there was a manifestation of a qualitative learning orientation. Our conception relating to ‘understanding’ is more suitable to be considered as a lower-order conception, as it does not explain more than a quantitative increase of knowledge. Also, the conception of ‘understanding’ we found is different from what Marton et al. (1993) described as ‘abstraction of meaning’ as understanding was conceptualised no more deeply than obtaining a clear view of the topics or material. It did not extend to understanding 'reality'.

The conception we observed as ‘acquisition of knowledge for application’ differs from the conception similarly labelled by Eklund-Myrskog (1998). It was found that the ability to apply was based on ‘understanding’ and represented a deep view of learning in nursing students. Although understanding also characterises the conception we observed, we saw many students linking acquisition of knowledge to application without referring to ‘understanding’. That is, processes aimed at internalising subject knowledge by relating to prior knowledge and experiences were not highlighted as a necessary step towards being able to apply the acquired knowledge. Sharma (1997) observed a similar conception to this in his sample of accounting students. He argued that accounting academics view learning as the ability to apply accounting principles and rules to the real world, and that might have influenced such a conception in their students. The absence of ‘understanding’ in the sequence between ‘acquisition of knowledge’ and ‘application’ may be attributed to the technical and instrumental nature of introductory and intermediate accounting units, which place little or no emphasis on a principles-based pedagogy. Although the de-emphasis on ‘understanding’ might change when more advanced units in accounting are taken, it is easy for students in early stages of studying accounting to perceive that learning is about being

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3 Lord and Robertson did not explore conceptions of learning but merely categorised students using Marton et al. (1993) framework.
able retain and utilise the acquired facts and procedures. In nursing, however, one might need to understand a body of knowledge, for example human biology or pharmacology, before that knowledge can be translated into clinical outcomes. Approaches, such as ‘framework-based teaching’,\(^4\) can be effective in highlighting the importance of understanding the principles and concepts in the accounting conceptual framework. Wells (2011) argue that framework-based teaching enhances students’ ability to exercise judgement when applying requirements in accounting standards or when no guidance is available. He further notes that, as accounting requirements continue to evolve, understanding concepts that underpin those requirements shall better prepare students for effective lifelong learning.

According to our fourth conception learning was conceptualised as a pathway to success. The presence of such a conception in accounting students can possibly be attributed to the professional orientation of the accounting discipline. This conception was qualitatively different from the ‘acquiring knowledge for application’ conception. This is because its focus is not on application of knowledge in real-life scenarios but was on the broader utility education provides in terms of advancing the economic and social status of an individual. This conception has parallels with Van Rossum and Taylor’s (1987) sixth conception which frames learning as processes driven by personal interest of achieving happiness or harmony. The fifth and sixth conceptions we observed are similar to that of Marton et al. (1993) and Byrne and Flood (2004). Sharma did not find the 6\(^{th}\) conception where learning is conceptualised as ‘self-development’ or ‘changing as a person’ in accounting students in his study. This could be due to Sharma’s sample including only second year students in whom highest-order conceptions are arguably less prevalent (see, Lin and Tsai, 2001 as well as the results contained in this paper).

Table 5 shows how our results on the frequency of occurrence of conceptions compare with prior studies on accounting students.

\(\textit{<Insert Table 5 about here>}\)

\(^4\) Framework based teaching requires concepts in the International Accounting Standard Board’s Conceptual Framework to be taught when teaching requirements in International Financial Reporting Standards (IFRSs). Wells (2011, p.306) notes that “because Framework-based teaching is rooted in the concepts that underlie IFRSs, such teaching lays the foundations for a more robust and cohesive understanding of the requirements in IFRSS”
The distributions of learning conceptions differ among the four studies. Nonetheless, some patterns can be identified. The most salient of these is the consistent findings that a greater majority of respondents possess lower-order conceptions of learning. The percentages of students with lower-order conceptions range from 63% in Lord and Robertson (2006) to 80% in Sharma (1997) with 71% found in the present study falling in middle. The lower-order conception most commonly expressed by students in all four studies is ‘increase of knowledge’. ‘Memorising and reproduction’, a conception which was not found in the present study, was expressed by 16% in Lord and Robertson (2006), 13% in Byrne and Flood (2004) and 5% in Sharma (1997). In comparison, a sub-theme we discovered within Conception 2: ‘understanding’ where learning is conceptualised as ‘understanding and remembering’ was only present in 3 students (1.5%). As in the three prior studies the conception of ‘seeing in new ways’ was found in a small minority of students. In comparison to other studies, the present study found the greatest presence of students who conceived learning as ‘self-development’.

We suspect that the differences between the findings of the studies (as outlined in Table 5) are attributed to factors that effect students’ conceptions of learning. However, according to our knowledge, none of the studies have empirically investigated the factors effecting accounting students’ conceptions of learning. This study investigated the influence of year of study on conceptions of learning holding constant gender, study mode, language spoken at home, and higher education entry qualification. We found that university students in higher grade levels display more higher-order conceptions of learning. This finding is consistent with Lin and Tsai (2011). Table 5 shows that a there is a notable difference between the percentages of second- and third-year students adopting conceptions ‘increase of knowledge’, ‘application of knowledge’, ‘pathway to a successful life’, and ‘seeing in new ways’. The finding that third-year accounting students indicates that at least in the accounting program of the host institution, cognitive engagement at more complex and abstract levels gradually occurs for students in the latter stages of their studies.

However, it is still inadequate as even among third-year students the majority possess lower-order conceptions such as ‘increase of knowledge’ and ‘acquiring knowledge for application’. Students with lower-order conceptions have the tendency to adopt surface approaches such as rote learning and memorisation, which in turn result in poor quality learning outcomes (Gibbs, 1995). This calls for further work in developing intellectual curiosity necessary to
inculcate higher-order conceptions within the accounting degree programs of the host institution. Given the similarity of course structures of accounting degree programs across the higher education sector in Australia, the observation we have made here may well be extended to other institutions.

One might argue that a prevalence of lower-order conceptions among accounting students is not surprising when perceived utility of accounting education has been portrayed as application of technical skills and knowledge in practice (Sharma, 1997). Almost three decades ago Tinker (1985, p.xx) argued that:

Today's students and tomorrow's practitioners are saturated with a litany of rules and procedures that are supported by little other than expedient reasoning, ad hoc explanations, and piecemeal realisations. Professional accounting education is certainly not a talkshop for exploring the meaning of social existence: rather it resembles a rote learning process in which students are inculcated with the profession's party line by pedantic and legalistic methods.

Arguably, the state of accounting education in universities today is not much different from what Tinker described above. Fisher and Murphy (1995) argue that accounting pedagogic practice should be transformed through the incorporation of critical approaches to knowledge for the general progression of accounting as an academic discipline. There is a now a more persuasive force driving change in accounting pedagogy – the accounting profession. It is calling for universities to develop graduate attributes such as critical thinking, creative, problem solving and analytical skills (IFAEC, 1996; Violette & Chene, 2008). The accounting profession requires from accounting graduates a lifelong commitment to learning and personal development (Barrie, 2004; IAESB, 2010). Accreditation guidelines for universities issued by professional accounting bodies highlight their expectations in terms of cognitive and behavioural skills required of graduates. These skills and attributes cannot be developed without encouraging an intrinsic curiosity in students to learn and facilitating a critical discussion of new ideas and linking ideas to already known concepts, principles and experiences. Such motives and strategies to learning are underpinned by higher-order conceptions of learning.

The fact that majority of the students were not anchored at either of the extremes but spread across various levels in the conceptions of learning hierarchy is encouraging for initiating change (Sharma, 1997). It suggests that students can be supported to move along the hierarchy to higher-order conceptions. In order to develop higher-order conceptions one
could start by devising course and unit level learning outcomes that extend beyond technical criteria and address higher-order behavioural and cognitive skills (Chabrak & Craig, 2013). These should then be constructively aligned with assessment and teaching methods at unit level. It would be appropriate to openly discuss various conceptions students might have early in the teaching period and clarify how learning and teaching that is to occur in the unit is aimed at developing the students to become advanced learners. Also, there is evidence that carefully planned learning and teaching interventions can successfully alter students’ conceptions of learning (Martin & Ramsden, 1987; Marton, et al., 1993; Mladenovic, 2000) and approaches to learning (English, et al., 2004; Hall, et al., 2004). Hattie et al. (1996) suggest the use of affective interventions to bring about changes in self-concept and motivation. Such interventions have found to be appropriate in addressing misconceptions of learning. Linder and Marshall (1997) adopted strategies such as concept-mapping, peer discussion and qualitative reasoning to develop more sophisticated conceptions of learning. Boyce et al. (2001) explain how case studies as a tool can develop students’ generic skills which invariably address students’ learning conceptions. Another interesting idea put forward by Boyce (2004, p.575) is ‘tangential thinking’ in accounting:

An approach that brings a range of relevant issues into the accounting classroom, and provides the opportunity for the critical discussion of a range of issues that are often “no-go” areas within any subject area normally included within commerce or business degrees (not just accounting).

Tangential thinking enables students to view the ‘big picture’ and challenge their conceptions of learning.

Kimmel (1995) explains the importance of incorporating critical thinking into accounting education in order to achieve higher level of intellectual development necessary to practice accounting. He argues that early courses in accounting should develop the disposition necessary to think critically, which is the first stage in the critical thinking process explained by Ennis (1987). Huffman et al. (1991) explain this first stage as the emotional foundation of critical thinking (or affective components). The qualities that students are expected develop at this stage include “valuing truth above self-interest”, ‘accepting change’, ‘empathising’, ‘welcoming divergent views’, ‘tolerating ambiguity’ and ‘recognising personal biases’. These qualities are closely aligned with high-order conceptions of learning. This stage is then followed by the development of cognitive components, which are the thought processes involved in critical thinking, and behavioural components that are the actions and strategies
used in critical thinking. Second and third year units in accounting are the ideal setting to incorporate these latter stages in Huffman et al.’s (1991) critical thinking framework. The work of Kimmel (1995) is useful in this regard as he provides a framework for assigning critical thinking elements to particular accounting units in light of student intellectual stage and course content.

Results of our study need to be interpreted subject to two main limitations. This study used a repeated cross-sectional design rather than a longitudinal design due to scope and data limitations. Hence, we do not claimed that students’ conception of learning changed from second-year to third-year, but students in their third-year are likely to adopt conceptions different from students in their second-year. Also there could be other personal and contextual factors that may contribute to students’ conceptions of learning which were not controlled for in this study.
References


Table 1: Sample characteristics

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Category</th>
<th>Frequency</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>103</td>
<td>49.8</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>104</td>
<td>50.2</td>
</tr>
<tr>
<td>Study mode</td>
<td>Full-time</td>
<td>118</td>
<td>90.8</td>
</tr>
<tr>
<td></td>
<td>Part time</td>
<td>19</td>
<td>9.2</td>
</tr>
<tr>
<td>Language group</td>
<td>English speaking</td>
<td>100</td>
<td>48.3</td>
</tr>
<tr>
<td></td>
<td>Non-English speaking</td>
<td>88</td>
<td>42.5</td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>19</td>
<td>9.2</td>
</tr>
<tr>
<td>Entry to higher education</td>
<td>Direct entry from Year 12</td>
<td>92</td>
<td>44.4</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>115</td>
<td>55.6</td>
</tr>
<tr>
<td>Year of study(^a)</td>
<td>Second year</td>
<td>118</td>
<td>57.0</td>
</tr>
<tr>
<td></td>
<td>Third year</td>
<td>89</td>
<td>43.0</td>
</tr>
</tbody>
</table>

\(^a\) Year of study variable is based on whether a student is undertaking a majority of second-year units or third-year units during the semester

Table 2: Accounting students’ conceptions of learning

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>Learning is the increase of knowledge</td>
<td>57</td>
</tr>
<tr>
<td>1.1</td>
<td>Increasing knowledge</td>
<td>51</td>
</tr>
<tr>
<td>1.2</td>
<td>Increasing knowledge and improving skills</td>
<td>6</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>Learning is understanding</td>
<td>38</td>
</tr>
<tr>
<td>2.1</td>
<td>Increase of knowledge and understanding</td>
<td>6</td>
</tr>
<tr>
<td>2.2</td>
<td>Understanding new topics/concepts</td>
<td>29</td>
</tr>
<tr>
<td>2.3</td>
<td>Understand and remember what’s taught</td>
<td>3</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>Learning is acquiring knowledge for application</td>
<td>45</td>
</tr>
<tr>
<td>3.1</td>
<td>Passing exams</td>
<td>3</td>
</tr>
<tr>
<td>3.2</td>
<td>Acquisition of knowledge for application</td>
<td>9</td>
</tr>
<tr>
<td>3.3</td>
<td>Acquisition of knowledge to secure career opportunities</td>
<td>5</td>
</tr>
<tr>
<td>3.4</td>
<td>Acquisition of knowledge for use in employment</td>
<td>8</td>
</tr>
<tr>
<td>3.5</td>
<td>Understanding and application</td>
<td>20</td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>Learning is a pathway to a successful life</td>
<td>25</td>
</tr>
<tr>
<td>4.1</td>
<td>Acquisition of knowledge for a successful life</td>
<td>13</td>
</tr>
<tr>
<td>4.2</td>
<td>A means to a successful life</td>
<td>12</td>
</tr>
<tr>
<td><strong>5</strong></td>
<td>Learning is seeing in new ways</td>
<td>15</td>
</tr>
<tr>
<td>5.1</td>
<td>Gain knowledge to understand worldly phenomena</td>
<td>9</td>
</tr>
<tr>
<td>5.2</td>
<td>Opening up one’s mind</td>
<td>6</td>
</tr>
<tr>
<td><strong>6</strong></td>
<td>Learning is self-development</td>
<td>16</td>
</tr>
<tr>
<td>6.1</td>
<td>Developing new life skills</td>
<td>2</td>
</tr>
<tr>
<td>6.2</td>
<td>Preparation for the real world</td>
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</tr>
<tr>
<td>6.3</td>
<td>Being able to adapt</td>
<td>1</td>
</tr>
<tr>
<td>6.4</td>
<td>Develop as a person</td>
<td>9</td>
</tr>
<tr>
<td>6.5</td>
<td>Develop into an independent learner</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>196</td>
</tr>
</tbody>
</table>

29
| Table 3: Frequency distribution of conceptions of learning by year of study |
|--------------------|-----|-------|-------|-----|-----|-------|-------|
|                     | Count | Expected count | % within year of study | Count | Expected count | % within year of study | Total |
| Study mode (Part time = 1) |       |                 |                    |       |                 |                    |       |
| Gender (Female = 1)        |       |                 |                    |       |                 |                    |       |
| Year of study (3rd Yr = 1) |       |                 |                    |       |                 |                    |       |
| Language (English speaking = 1) |       |                 |                    |       |                 |                    |       |
| Entry qual (High School = 1) |       |                 |                    |       |                 |                    |       |
| Constant                 |       |                 |                    |       |                 |                    |       |

| Table 4: Results of the logistics regression |
|---------------------|------|------|----------|---------------------|
|                     | B    | S.E. | Wald     | Sig.               | Exp(B) | 95% C.I. for EXP(B) |
| Study mode (Part time = 1) | .676 | .736 | .844     | .358               | 1.966  | .465 - 8.318 |
| Gender (Female = 1)        | -1.176 | .485 | 5.883    | .015               | 3.038  | .119 - .798 |
| Year of study (3rd Yr = 1) | 1.236 | .460 | 7.212    | .007               | 3.443  | 1.397 - 8.487 |
| Language (English speaking = 1) | -1.171 | .494 | .120    | .729               | .843   | .320 - 2.219 |
| Entry qual (High School = 1) | .856 | .465 | 3.390    | .066               | 2.355  | .946 - 5.859 |
| Constant                 | -1.238 | .513 | 5.818    | .016               | .290   |               |

Note: The dependent variable in this analysis is conception of learning. It is equal to 1 if the respondent adopts a higher-order conception and 0 otherwise.

| Table 5: Comparison of distribution of conceptions of learning |
|---------------------|---------------------|
|                     | This study (n = 196) | Lord and Robertson (2006) (n = 49) | Byrne and Flood (2004) (n = 93) | Sharma (1997) (n = 98) |
| Increase of knowledge | 29%                 | 31%                         | 33%                         | 42%                        |
| Memorizing and reproduction | n.a.                 | 16%                         | 13%                         | 5%                          |
| Understanding         | 19%                 | 33%                         | n.a                         | 14%*                        |
| Applying              | 23%                 | 16%                         | 18%                         | 33%                         |
| Abstraction of meaning | n.a.                 | n.a.                        | 29%                         | n.a                         |
| A pathway to a successful life | 13%                 | n.a.                        | n.a                         | n.a.                        |
| Seeing in new ways    | 8%                  | 4%                          | 4%                          | 6%                          |
| Self-development      | 8%                  | 0%                          | 3%                          | n.a.                        |
| Total lower-order conceptions | 71%                 | 63%                         | 64%                         | 80%                         |
| Total higher-order conceptions | 29%                 | 37%                         | 36%                         | 20%                         |

*Understanding was considered as a higher-order conception in these studies.