Thematic Development in Introducing Students to the Language of Accounting: Five Minutes in One Accounting Lecture

Len Therry PhD, FCPA
Lecturer in Accounting
School of Accounting, Finance and Economics
Edith Cowan University
270 Joondalup Drive
Joondalup, Western Australia 6027
Telephone: 61 08 6304 5594
l.therry@ecu.edu.au

Abstract
The purpose of this paper is to demonstrate how language is used as a semiotic resource to construct meanings about a particular topic in accounting. Analyses of texts extracted from five minutes in an accounting lecture contribute to the notion that distinct patterns of meaning relations are constructed which correspond to a common thematic formation unique to accounting. In this sense, the use of a specific discourse analysis technique referred to as 'thematic analysis' is demonstrated. The main premise underlying the analyses is that language is an often ignored but fundamental aspect of the culture of education and in this instance, accounting education. It is the primary resource used to construct meanings in accounting. As such, the study reported on in this paper considers the relationship between language and learning in accounting education from a social semiotic perspective.

Key Words: language and learning, social semiotics, thematic analysis, accounting education, discourse analysis

1.0 INTRODUCTION

In the educational environment common to most universities (lecture and tutorial) students are introduced to the meaning system that is referred to as 'accounting'. They learn to use its language as well as produce texts or realisations of meanings. Both the spoken and written texts of accounting represent not only products but also processes - processes involving some form of human and social interaction. Students and accounting educators are participating in producing texts (both written and verbal) that realise meaning and index the social group or community of accountants. In many ways this is accomplished through the semiotic resource of language to construct meanings. As educators we are also engaged in performance, but more importantly we are also engaged in social interaction whether this involves lecturing, demonstrating, or questioning students.

Learning is not merely dependant on acquiring and retaining information and teaching is not merely the dispensing of facts. Rather, learning is being able to see the relationships among pieces of information, in composing meaning, in making sense. In this sense, learning is very much dependant on language use. Surprisingly the accounting education literature has ignored the importance of language in communication, teaching and learning. This is despite the fact that language is the principal medium in which teaching and learning takes place. The purpose of this paper is to draw attention to the 'lived curriculum' of the

classroom in accounting education. This study focuses on examining the discursive activity taking place within a typical accounting lecture in terms of its social context and examines how language is used to socially construct meanings relevant to accounting.

2.0 ACCOUNTING AS A DISCOURSE AND A LANGUAGE

Theorists of language and literacy such as Kress (1985, p. 139) refer to discourse as "a set of statements which largely define, describe, delimit, and circumscribe what it is possible and impossible to say with respect to that area, and therefore how it is to be talked and written about". For example, in accounting we conventionally 'talk' about assets in terms of their relationship to liabilities and owner's equity. Profit is 'talked about' in terms of its relationship to revenue and expenses. Liquidity and solvency are discussed in terms of components of the balance sheet and the linkage between the terms 'assets', 'liabilities', and 'cash flow'. Language is used to construct meanings relevant to accounting – the creation of a 'discourse' which indexes this particular social group as 'accountants'.

The concept of discourse community has only infrequently been applied to accounting. Composition theorists however involved in the 'writing in the discipline movement' have consistently referred to 'discourse communities' (see for example Bartholomae 1984; Herrington and Moran 1992; and Maimon, Belcher, Hearn, Nodine, and Connor, 1984). Discourse communities refer to the perspective that every discipline has its own knowledge and practice with its own vocabulary, its own sets of rules and conventions. For example, accountants talk like accountants and the profession of accountancy (for example) has in many ways its own language (O'Conner and Ruchala 1998, p. 97 and 99).

Accounting has a rich tradition of being viewed as a language. For example, Riahi-Belkaoui (1995) argued that recognition of accounting as a language rested on the identification of two components: symbols and grammatical rules. Others such as Jain (1973) have taken a less objective view when referring to the linguistic nature of accounting:

All language represents phenomena in the real world while accounting represents phenomena in the business world. Accounting practices are the basic objects of study for formulating accounting theories and policies. They are our daily conversation in linguistics. Based on these similarities we may draw our conclusion that inferences drawn from the field of linguistics will be equally applicable in the field of accounting.

Stephens, Dillard, and Dennis (1985) have applied formal language analysis to current accounting standards in order to understand and clarify them whereas Lavoie (1987) highlighted the relationship between accounting language, communication and interaction:

accounting should be understood as a language, that is, a process of bi-directional and interpersonal communication. When we study systematically the uses of this language we need to ask what kinds of meanings are being communicated in it, and what kinds of co-ordinative functions the use of this language permits. Language is not just talk, it is our way of seeing the real world. It is a process of mutual adjustment and communication in which the knowledge socially generated by the participants in this process is greater than that proposed by any of them individually (p. 580)

Others have taken up the linguistic nature of accounting by referring to all extant accounting as being composed of 'text' (Cooper and Puxty, 1994):

.....the essence of any text can only take on meaning through its placement within the web of the whole range of texts presented to us as part of our social structure. The reading of accounting writing has

neglected this, and little attention has been paid to the nature of the text that inevitably constitutes accounting (p. 127)

Arrington and Francis (1993) in taking up the position of accounting as a language have drawn attention to the need to reconceptualise accounting in terms of discourse theory. "Accounting theorists may look toward the structure of discourse as a way to begin to reconceptualise accounting as a much broader human practice than conventional notions of accounting can conceptualise" (p. 121). In addition, they also referred to account preparers as being members of an identifiable community, in this sense representing an identifiable culture.

3.0 ACCOUNTING IN ITS TEACHING CONTEXT

In the educational environment of the lecture or tutorial, language and other semiotic resource systems are used to construct both regular patterns of activity. This includes for example, introducing topics and themes as well as to negotiate movements to new topics. Various episodes are introduced and brought to closure, each with a purpose and function. In many ways choices are also being exercised to control patterns of behaviour. In addition to recognised patterns of activity, language is used to develop in both monologue and dialogue the meaning relations and special ways of speaking and writing particular subjects, including accounting. Students are then initiated into these specialised forms of social 'discourse' - into what it means to 'talk accounting' or use the specialised register of accounting to mean. Students are then assessed both formally and informally, based on their spoken and written use of language appropriate to the subject. In all these ways, education as a process, a 'social' process' centres on language use. It is crucially important that its language-use processes be studied comprehensively (Lemke, 1985, p. 1).

3.1 Classroom Discourse

Classroom discourse and its significance for teaching and learning has been the subject of numerous studies deriving from a variety of research traditions and employing a wide range of techniques accordingly (Edwards and Westgate, 1994). Significant approaches to analysis of discourse in the classroom have included those working from the perspective of conversation analysts (for example Stubbs 1983), the seminal discourse analysis work of Sinclair and Coulthard (originally 1975), influential studies by Mehan (1979), and of course, Cazden (eg 1988). The concern of much of analysis discourse however has been to examine the sequential organisation of talk – how turns at talk are constructed and patterned.

Science and mathematics education however demonstrated an interest in considering the implications of education as representing a social practice, the importance of language and its relationship to learning, subject area learning as representing a discourse and the implications for teaching and learning. Of central importance to the study reported on in this paper is the pioneering work of Jay Lemke in science education.

4.0 SCIENCE EDUCATION

Lemke (1982) collected data over a three year period during which some sixty lessons by twenty different instructors in three secondary schools and one university were observed and recorded. The analysis of the data was directed towards identifying the typical activity routines of the classrooms, their variants and functions, the strategies of behavioural control and negotiation of power and other dimensions of interpersonal relationships, as well as the specific strategies by which the thematic content of the science subject was communicated.

What emerged from Lemke's (1982) study was that more that just 'facts' or 'information' were being communicated in the process of education. In the social context of the formal education environment (eg classroom) teachers and students were coming to share a common 'discourse' - a common way of talking (and otherwise doing) science subjects. Students were learning appropriate ways of communicating science. Science classroom talk was also found to be serving two main functions: the co-ordination of what was done and when as well as the control and development of the use of thematic systems of science (science content). In other words, various activities were found to be engaged in by both the student and teacher. It was within these activities that the 'content' of the subject was developed.

In dialogue for example, students and their teacher were found to be interacting with one another according to various activity patterns (e.g. question/answer). More importantly, they were also constructing complex meanings about a particular topic by combining words and sometimes symbols into what was described as a 'thematic pattern' of meaning relationships. In this manner the content of any science topic was deemed to be 'socially constructed' often using the semiotic resource of language according to a particular 'thematic system' in science.

'Thematic systems' was the key term used by Lemke (1982) to represent the characteristic ways of talking about a particular topic. For example, as part of the science curriculum there were certain ways of talking about thematic items such as 'light', heat' or 'electric circuits'. The ways of talking about these 'thematic items' were characteristic of the 'discourse' of science and could be found in any science textbook. In this respect, the content of the science was viewed in terms of the thematics of the topic concerned. This is what Lemke referred to as thematic pattern: "a pattern of semantic relationships that describes the thematic content of a particular content area" (1990, p. 12). The significance of the thematic pattern was that if the relationships themselves and the pattern in which they are joined are the same that was found in textbooks, or the language of professionals in the discipline, then one was truly 'talking science'.

One of the main contributions arising from Lemke's (1982) initial study was that he provided a methodology for analysing the education and communication process in the formal education environment from a 'social semiotic' [1] perspective. This involved two basic principles. The first principle involved examining the ways in which the content of any lesson was developed (i.e. the dynamics of the social interaction in terms of activity structures that took place). The second principle involved analysing the development of the thematic content of the subject (thematic analysis as a form of discourse analysis). In principle, activity structures and thematic development are separable but in practice, they are considered to be interdependent aspects of the same flow of behaviour (1989, p. 221). In this sense, patterns of meaning relations made with language can be described but they are context-dependent on the (social) activity structures in which they are embedded. From an analytical perspective, these two separate aspects need only be separated so that they can be examined more carefully in terms of their relationship to one another.

The analysis of thematic patterns was considered potentially to be an important resource for teaching as well as a potential tool for learning. For example, a thematic pattern diagram could be constructed which provided a picture of the network of relationships among the meanings of the key terms of a particular topic.

[1] Social semiotics refers to the how people construct patterns of meaning in the process of social interaction. It is synthesis of contemporary approaches to the social production of meaning. It is based on formal or mainstream semiotics which focuses on the study of signs and sign systems. In general terms, semiotics can be considered as the 'study of meaning' and considers how meaning is generated.

In theory, the whole content of the curriculum of a course could also be expressed in terms of one large thematic pattern diagram or large thematic diagrams could be constructed comprising a few weeks work.

4.1 Social Semiotics Considered in Mathematics Education Research

Chapman (1993 p. 45) has argued that the social semiotic theory considered by Lemke has much to offer educational research. Building on the analytical perspective developed by Lemke (1982, 1983, 1985a and 1985b, 1990) in terms of both activity structures and thematic structures (formations) as applied in analysis of classroom discourse, Chapman (1992, and 1995) investigated the relationship between language and learning in the mathematics classroom.

Using the example of the topic of 'functions' as part of the mathematics curriculum Chapman (1992 and 1995) demonstrated using the principles developed by Lemke (1982) how separate texts produced in mathematics education (e.g. based on student interactions, teacher-student dialogue, extracts from textbook, etc) constructed patterns of meaning relations. Based the identification of simple semantic patterns for each text (e.g. X is 'a type of y'), she also demonstrated how these could be combined to form a composite 'thematic formation' representing the topic of 'functions' in mathematics. This thematic formation could be expressed in terms of thematic diagram. In theory, the thematic diagram could be used as a tool for instruction. At a glance, students could see the how various words or thematic items for the topic of functions 'fitted together' based on semantic relations to form the thematic pattern diagram.

More recently social semiotic principles have been considered in maths education from a range of perspectives including: construction of the nature of school mathematical activity in writing produced by secondary students (Morgan, 2006); discursive positioning and emotion in school mathematics practices (Evans, Morgan, and Tsatsaroni, 2006); and preparing mathematics teachers for social justice (de Freitas Zolkower, 2009). In taking a social semiotic perspective to science education, Bleicher, Tobin, and McRobbie (2003) examined how discourse strategies constrained or supported students' understanding of science. Yeo (2009) applied the techniques of formal thematic analysis developed by Lemke (1982) to demonstrate that understanding science is the ability to construct similar thematic patterns similar to those found in other authorative sources. As noted by Saenz-Ludlow and Presmeg, (2006, p.2) semiotic theories deserve attention because they contribute new perspectives on knowing and knowledge, representing and representation, communicating and communication, teaching and learning.

5.0 RESEARCH METHOD

Data reported on in this paper was obtained based on field research involving an introductory first year financial accounting unit which formed part of a Bachelor of Business degree in a local Australian university. The data initially collected for analysis and interpretation was drawn from videos taken during the lecture and tutorial during the first three weeks of the semester. Participants comprised the accounting lecturer (who was also the tutor) as well as the students who were all accounting majors. The instructor was an experienced lecturer and tutor but as typical with most tertiary accounting educators, did not possess any formal teaching qualifications. The lecture environment comprised some one hundred and fifty students.

The second stage of the data collection process involved the transcription of the soundtrack to audio tape and then to hard copy. The transcription to hard copy was completed with the assistance of a research assistant. The transcriptions were then compared to the video tape to ensure accuracy of transcribing prior to any attempts at analysis. As a result of this two stage process, a wealth of data was collected over the

three week period. Analysis of the data was based on examining videos as well as the transcriptions. The text used for analysis in this paper represents only a small portion of the volume of data collected over a three week period from both lectures and tutorials.

In summary, the method of collecting data for the purpose of this study is field research using a case study approach. The methodology was based on discourse analysis with the theoretical perspective which provided the context for analysis being based on social semiotics.

6.0 INTRODUCTION TO THE ACCOUNTING EQUATION

The text analysed is an extract from an early accounting lecture which could be entitled "An Introduction to the Accounting Equation". An important feature of this topic is that it introduces students to the relationship between the accounting terms: assets, liabilities, and owner's equity. In addition, the text is characterised by the following technical terms and phrases common to accounting: assets, interests of a business, interests of members, equity holders, interest holders, internal equity holders, owner's equity, external equity holders, and liabilities. The analysis reveals how during the course of the lecture, language is used to construct patterns of meaning relationships between these thematic items. It also illustrate some of the strategies employed by the lecturer in developing these themes in the context of the regularly occurring patterns of activity taking place in the social context of the lecture. Overall, the analysis of the first texts provides some initial insights concerning the adoption and potential benefits of thematic analysis in accounting instruction. [2]

6.1 Thematic Development by Lecturer

The indication that this topic is about to commence is signalled to the students by the lecturer: taking up a position next to the overhead projector, placing an overhead slide on the projector, and releasing information on the overhead. The overhead used to commence this topic is referred to as Appendix One and the accompanying monologue is also provided in the Appendix. (lines 1 to 5).

The first indication that the lecturer is constructing a thematic pattern associated with the topic is established very early in the lecturer's monologue. In fact, the primary thematic relationship relevant to the topic 'introduction to the accounting equation' is presented in the lecturer's opening statements in line 2, "the assets of that business can be said to equal the interests of a business". Here the lecturer establishes a semantic relation between the thematic items 'assets' and 'interests'. In the discourse of accounting this represents a specific relation in meaning:

Assets	are equal to	Interests
(of a business)		(of a business)

The use of the phrase "can be said" implies not necessarily a statement indicating low modality (i.e. uncertainty) but rather suggests to students that the relationships constructed are characteristic of a new discourse. A shift from everyday discourse to another type of discourse, an accounting discourse. In other words, as accountants we characteristically refer to assets in terms of their relationship to the interests of a business. This notion of 'interests' is further developed and expanded upon in the monologue and release of information which follows.

In establishing this initial relationship, the lecturer specifically refers to the terms ‘assets’ and ‘interests’ as those 'belonging to a business'. A secondary semantic relationship has thus been established between the items ‘assets and business’ as well as ‘interests and business’:

assets	belonging to/are part of	a business
interests	belonging to/are part of	a business

Semantically, the terms ‘assets’ and ‘interests’ are also linked as being part of or belonging to the same business. This is unequivocally demonstrated in lines 2 and 3 when the relationship between assets and interests are restated “so the assets of that business are equal to the interests of that business”. The lecturer’s emphasis that both interests and assets are those “belonging to a business” is significant in that it highlights another important relationship which is central to the notion concerning the principle of “accounting entity” - a concern with a business not personal assets nor personal interests. The theme of business assets versus personal assets and business interests personal interests is not developed further by the lecturer as it is the focus of another accounting topic.

Thematically, the relationship between ‘assets’ and ‘interests’ is also reinforced and signalled to the students by the use of the overhead as the lecture engages in the activity ‘release of information’ on the overhead slide. In interacting with the overhead the lecturer reveals that the relationship is mathematical in nature. The words “are equal to” as used by the lecturer are replaced by the use of the mathematical symbol ‘=’ as well as the use of the words ‘equation’ (as in ‘The Accounting Equation’) and ‘equality’ (as described as ‘this equality’). The implication is that a mathematical relationship exists whereby some numerical values associated with the conceptual term ‘assets’ must correspond or be equal to numerical values associated with the conceptual term ‘interests’ for the equation to be in equilibrium.

Another semantic relationship has also been provided by the lecturer in line 1 by the use of the examples BHP, law firm, and fish and chip shop as representations of different organisations. The intention of the lecturer in using these examples is to illustrate that the accounting equation applies to different types of businesses/organisations. From an accounting perspective however, there is another dimension to the use of these examples. They are representative of different types of businesses and not merely examples of organisations or businesses. For example, large vs medium vs small business, company vs partnership vs sole trader, multi-national manufacturer vs supplier of professional services vs food merchant, reporting entity vs non reporting entity. As this has not specifically been referred to by the lecturer, it is likely that the importance of the distinction has eluded students. Students with some prior knowledge of accounting my recognise the significance of such an example and consider how the rule is applied across different entities. Appendix One supports this theme by the use of the phrase “in any organisation”. At this stage it is difficult to determine the extent to which these examples contributed to the thematic development of the topic for the majority of students.

Lines 6 to 11 establish two important semantic relationships significant to the thematic formation being developed here. The first of these is that assets can be represented by a numerical value expressed in dollar terms. The second is that land, club house, stands, and equipment are all examples of assets. As assets have not yet been defined the thematic pattern is expanded by way of example only. The fact that the example used is that of a cricket club finally establishes that the terms ‘business’ or ‘organisation’ are not used as

semantic equivalents (hyponyms) but that the accounting equation applies equally to commercial enterprises as it does to 'not for profit organisations' such as cricket clubs.

Appendix Two represents the second overhead used by the lecturer. The accompanying monologue (lines 6 to 11) establishes the following two semantic relationships:

land, clubhouse, stands, equipment	are types of	assets
assets	have a/possess	numerical (dollar) value

The link between the theme expressed in Appendix One (and lines 1 to 5 of lecturer monologue) and that in Appendix Two (and lines 6 to 11) which support that they belong to the same general thematic pattern of the subject matter is provided when the lecturer asks the question (which is repeated on the overhead) "So what can we glean about this cricket club from this information?" (line 12). In asking this rhetorical question the lecturer provides a link between the preceding semantic relationships. For example, in stating that the assets of the club have a total value of $1.8 million and the interests in that club also must total $1.8 million reinforces the semantic relationships established in Appendix One and Appendix Two. In other words, assets have a value and when totaled, this value must also represent the interest in the club. This relationship termed the 'accounting equation' is as the title suggests, a mathematical relationship. Interests in the club are expressed or valued in relation to the value of the club's assets. It is implied but not formally stated that it is the value of the assets that determine the value of interests and not vice versa.

Line 14 commences the first of a number of semantic relationships concerning the term "interests" which also add to the thematic pattern being established. The lecturer states that in situations where the club has no debt, "the interests are owned by the members". In the context of the accounting equation, where assets equal interests, semantically the lecturer has identified that it is the 'members' interests which are equal to the assets. In other words:

assets	are equal to	interests (accounting equation)
interests (of the club)	are owned by	members (of the club)

Lines 18 and 19 further introduce the notion that 'interest holders' can be substituted for the term 'equity holder' and that equity can be substituted for the word 'interests'. Reference is also made to the original theme concerning the accounting equation. That is, it is suggested to students that only in the context of the accounting equation do 'equity holders' represent 'interest holders'. This semantic relationship is as follows:

equity holders	are the same as/represent	interest holders

In developing the theme associated with 'interests' or the right hand side of the accounting equation, the lecturer establishes that there are in fact, two types of equity holders. There is what is known as 'internal equity holders' which is the same as 'owner's equity. "So owner's equity represents the 'internal equity holders' (lines 21 and 22). This brief monologue results in the following semantic relationships being established to students concerning the thematic item 'interests':

internal equity holdersare the same as members (of the cricket club) are the same as owner's equity

Instead of referring to owner's equity (or internal equity holders) as being equal to the assets, (as per the initial theme of the accounting equation) the lecturer in line 22 now refers to the relationship as the "claims of the owners over the assets" (line 22). In other words, the mathematical relationship of being equal has been replaced by the phrase "having a claim over" - a less mathematical and more accounting orientated use of language. Once again, the lecturer substitutes the words 'internal equity holders/owner's equity' for the word 'members' and reinforces the notion that the members have a claim over and are not just equal to the assets of the club (line 23). The statement "there isn't anybody else to make a claim over those assets" reinforces the statement made by the lecturer in line 15, "this club has no debt", and implicitly establishes the following semantic relationship:

no debt implies/suggests no claim over assets by members
or alternatively:
no debt implies/suggests interests owned by members

Lines 25 to 27 develop the theme initially introduced in lines 18 and 19 concerning the two types of equity holders or interest holders. In addition to 'internal equity holders' there are 'external equity holders' who represent "claims of outsiders over the assets of the organisation" (line 27). The term 'external equity holders' is used interchangeably for the less precise accounting term 'external people'. The term 'external parties' is also exchanged for the term 'external equity holders' (line 26). Semantically the lecturer has established:

internal equity holders are a type of equity holder
external equity holders are a type of equity holder
external equity holders are the same as/represent liabilities

Interestingly, the lecturer uses the words "have interests in that organisation" (line 26) as another way of saying that the external parties have "claims over the assets" (line 27). Thematically, the lecturer is referring to the fact that because the claims are "from outsiders" as opposed to members, they refer to external equity holders or liabilities.

Lines 28 to 32 draw together the various semantic relationships constructed over the preceding lines of text concerning the external equity holders/liabilities/claim over the assets etc by changing the characteristics of the club to a situation where ownership of all the assets does not exist. In this scenario the lecturer hypothetically suggests that $500 000 is owed to the bank as mortgage over the land - a situation which results in debt. Semantically, it has been established that:

(a) assets are equal to interests

(b) Where the club has no debt:
assets are equal to interests of members

Lines 28 to 32 establish that where the club has debt (in this case owes an amount of $500 000):

assets are equal to interests of members/owners plus
interests of external parties/liabilities

Attaching a dollar amount (value) to the relationship:
assets of $1.8 million are equal to interests of owners $1.3 million
plus interests of external
parties/liabilities of $.5 million

The lecturer has thus integrated the separate themes of assets having a dollar value, interests consisting of both external (liabilities) and internal parties (owner's equity), and also linked them back to the original theme of the accounting equation which formed the basis for this meaning relationship. In addition, over a number of lines of text, the relationship between internal and external equity holders has been established as follows:

ownership of assets represents internal claims (over assets)
owner's equity
interests of members

and

non ownership of assets represents external claims (over assets)
liabilities
interests of external parties

Appendix Three and Appendix Four illustrate how some of the themes have been developed in his/her monologue as well as how semantic relationships relevant to the overall theme of 'the accounting equation' have been constructed. Appendix Three demonstrates in a sequential fashion a number of semantic relationships concerning the thematic items internal and external equity holders. Each piece of information is revealed or released to students on the overhead to demonstrate how the term 'equities' in the context of the accounting equation can be expanded to become 'owner's equity and liabilities'. Appendix Four provides an overview of the thematic pattern identified as the accounting equation and is accompanied by lines 33 to 36 of the text. In this extract the lecturer specifically refers to the building up of relations "ok, so building that up" (line 33) and incorporates the notion of equities as expanded in Appendix Three in the context of the accounting equation.

Lastly, lines 37 and 38 are used by the lecturer to demonstrate the flexibility of the accounting equation and to re-establish its mathematical origins, assets minus liabilities equals owner's equity, as presented in Appendix Four, in other words, "assets minus liabilities equals owner's equity". The significance to students of this relationship is then highlighted in lines 39 to 42 of the text.

6.2 How Thematic Development was Accomplished

The analyses of this episode of the lecture and corresponding text provides insights how in the social context of the lecture, the activity structure of monologue as adopted by the lecturer builds a pattern of meaning relationships unique to an accounting topic. It demonstrates how the lecturer models a 'discourse' for the benefit of students. Linguistically this was established by constructing an initial meaning relationship between the thematic items 'assets (of a business)' and 'interests (of the business)'. In the discourse of accounting we say that the assets (of a business) are equal to the interests (of the same business). The fact that the assets are those of a business (and not just any assets) and that the interests are those of the same

business suggests another set of meaning relationships essential to the thematic formation that is being constructed. The placement of the words in relation to each other set up a particular kind of meaning relationship: the accounting thematic item 'assets' can be seen to be in a mathematical relationship of equality to the thematic items 'interests'. This relationship was extended to refer to both businesses and organisations by the use of an example (BHP, law firm, fish and chip shop) and by the strategy of substituting the words business for organisation when restating the equation.

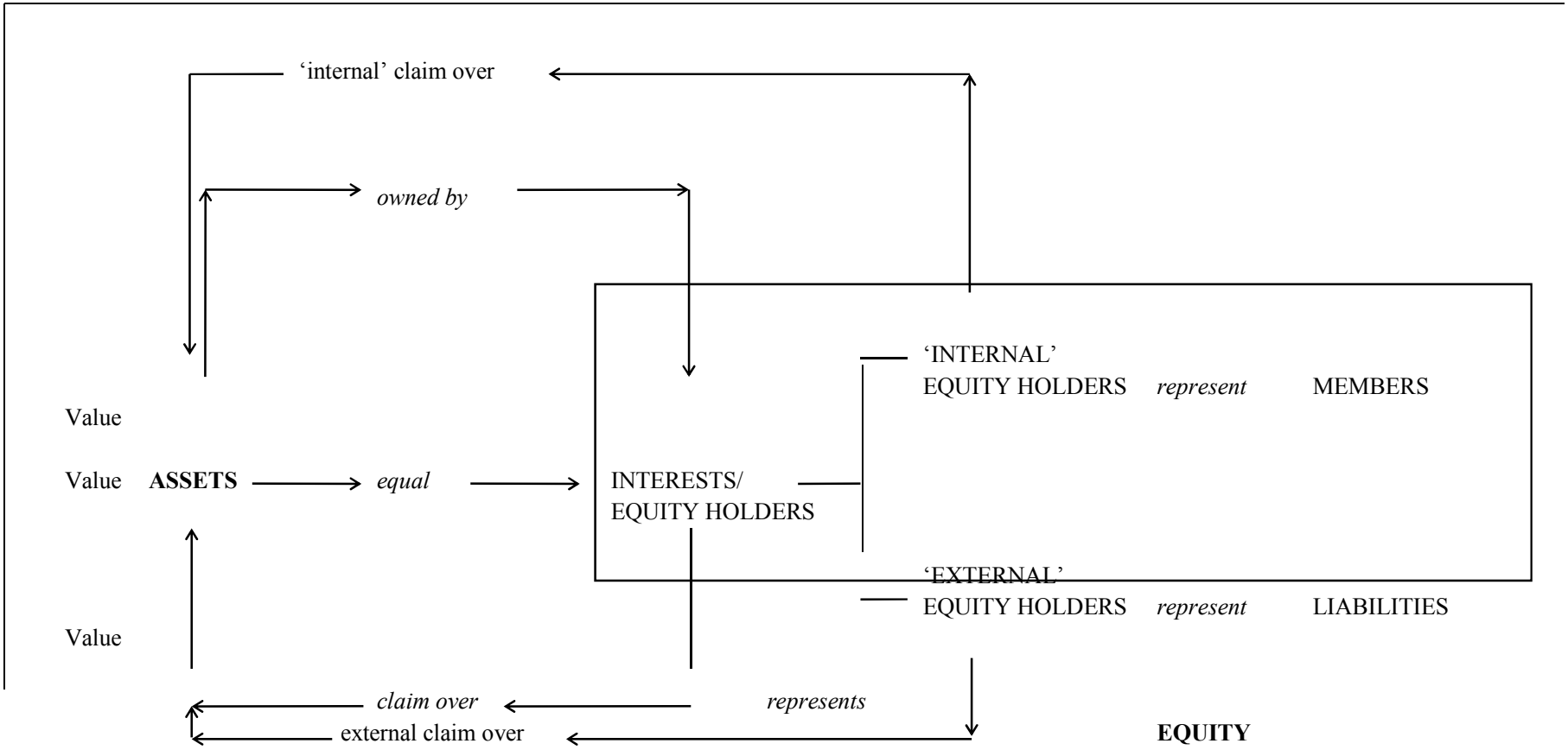
From this beginning the meaning relationship was expanded to eventually demonstrate as suggested by the '=', this was in fact a mathematical relationship involving numerical equivalents and not just accounting concepts. The example of an organisation (not a business) was used to illustrate that there are various types of assets, assets have a numerical value, and because of the particular meaning relationship established by the lecturer, the value attached to those assets are the same as (equal to) the interests of the business. Gradually by the successive building up of relationships it was established that assets = owner's equity and liabilities.

The building up of relationships and demonstration of their application was accomplished by the use of metaphor. The metaphoric content consisted of clubs or organisations having various assets and liabilities. Specifically the metaphoric content contributed by the use of the 'the cricket club example' provided the context for a number of semantic relationships to be identified which included land and buildings as types of assets as well as assets having a numerical equivalent. Eventually the example of the club with various assets totalling $1.8 million and amounts owing of $500 000 established a context, one that was crucial to the understanding of the significance of the accounting equation in terms of being able to complete a series of tasks. That is, if the value of the assets is known as is external claims or liabilities, then in the context of the accounting equation, one can calculate based on the mathematical relationship the value of the third item which in this case represents owner's equity. The descriptive and interpretive of account of how accounting discourse was socially constructed using monologue in the lecture is extended in the section that follows by demonstrating an alterative approach to constructing meaning relations in accounting.

6.3 Thematic Pattern Diagram

The thematic content of this text can be viewed as consisting of a thematic pattern of semantic relationships. This network of relationships can in turn be represented by way of a thematic pattern diagram (refer Figure One). The nature of the thematic diagram is that it outlines the significant semantic relationships referred to by the lecturer in the monologue as well as those included in the 'release of information' on the overhead slides. It diagrammatically presents the thematic system unique to accounting discourse which was constructed in monologue by the lecturer. The arrows in the diagram tell the reader which way to read the relations as if they were expressed in clauses or phrases. It represents a picture of the topic or statement of the content of the topic or theme. While there are many different ways to teach, in theory they would all result in the construction of the same thematic diagram concerning the relationship between key thematic items 'assets', 'equity' and 'business organisation' in the context of the overriding theme 'introduction to the accounting equation". It is these key terms or 'thematic items' and their relationship to each other that students are attempting to master when they 'learn' the discourse of accounting and attempt to communicate using accounting language.

Figure One
Thematic Pattern Diagram for Text
"Introduction to the Accounting Equation"



7. CONCLUDING COMMENTS

The analysis of texts illustrated in this paper demonstrate how accounting discourse is created by the linking of thematic items semantically in a manner that combines to form a thematic pattern or formation. It also provides some preliminary evidence concerning how the social semiotic principles suggested by Lemke (1982, 1985, and 1990) in terms of thematic analysis, can be applied to accounting education.

The implications of this social construction is that students should be able to demonstrate mastery of the thematics by being able to communicate applying the same semantic relationships. That is to say, in learning accounting they should be able to model the pattern constructed by the lecturer which identifies the relationships between key thematic items such as internal equity, external equity or assets. The lecturer's construction of meaning relationships has established an expectation that students should be able to demonstrate how these words or thematic items are used to 'talk accounting'. They should be able to demonstrate how they 'fit together' according to the thematic pattern that has been constructed. It is this pattern that is referred to when one 'talks' accounting' and in this respect, it highlights one aspect of student learning. Learning the 'language' of accounting refers to being able to link accounting terms (thematic items) semantically which form a network of relationships characteristic of the discourse of accounting and more precisely, a specific accounting topic. It is this pattern that students are expected to model in assessments, in class, and in communicating accounting concepts.

Taking a social semiotic perspective of accounting education therefore implies that both communicating and understanding accounting is dependant on being able to construct thematic patterns (or meaning relationships) similar to those used by accountants and found in accounting textbooks. A critical analysis of accounting instruction (in this case five minutes in one accounting lecture) demonstrates that language is not transparent and that social practices should not be taken for granted in accounting instruction – they both play an important role in the thematic development of any accounting topic. In this sense, the analysis of texts presented in this paper supports the argument that approaching accounting education from a discourse perspective and using the techniques of thematic analysis has the potential to increase students' understanding of accounting concepts and mastery of the language of accounting and therefore has the potential to contribute to improving the educational process.

APPENDIX

Transcript of Lecture

Lecture Overhead: The Accounting Equation

Ok, in any organisation whether its BHP, whether its a law firm, whether its a local fish and chip shop the assets of that business can be said to equal the interests of a business. So the assets of that business are equal to the interests of that business. Now this notion, this sort of equality is one of the fundamental or probably the fundamental principles in accounting. It is absolutely fundamental, the assets of an organisation are equal to its interests.

Appendix One

The Accounting Equation

In any organisation:

Assets = Interests

This equality is the most fundamental principle in accounting

Lecture Overhead: Example One

So if we look at the first lecture example, we've got our little cricket clubs a little local cricket club. And if we take a look at the assets of that cricket club, let's say that it is fairly wealthy, someone somewhere along the line gave it a piece of riverfront property so it has got some land worth $1.5 million. Over the years they have managed to raise sufficient funds to put clubhouse on that land worth $200 000 or at a cost of $200 000. You've got some grandstands and things which cost them $25 000 and they've got `some equipment, some training gear, stumps whatever guys use for training for cricket, $100 000.

So what can we glean about this cricket club from this information? Well we know that its interests or that its assets, sorry total $1 825,000 - that is the total assets of this club. And the interests in that club also equal $1.8 million. But whose interests? Let's say this club has no debt, they own the land, they own the clubhouse, the stands and the equipment - then the interests are owned by the members, the interests in this club are the members. So the assets of this club are equal to the value of the interests of the members in that club, OK?

Appendix Two

Example One

Assume that the local cricket club owns assets as follows:

Land	$1,500,000
Club house	$200,000
Stands	$25,000
Equipment (training gear etc)	$100,000

What can we glean about the club?

Lecture Overhead: The Accounting Equation

Now, in terms of the accounting equation, we've got two types of equity holders or two types of interests holders, now in accounting we use the term equity instead of interests. And there are two types of equity holders in any organisation. We can have internal equity holders, the members of our cricket club, the owners, and that's where owner's equity comes from. So owner's equity represents the internal equity holders. And these are the claims of the owners over the assets of the organisation. So in our cricket club example, our members have a claim over all the assets of that club. There isn't anybody else to make a claim over those assets.

that's not normal. In any normal business, there will also be external equity holders, or external people who have interests in that organisation. These external parties or external equity holders are known as liabilities. And these are the claims of outsiders over the assets of our organisation.

So let's say our cricket club owned everything, except the land - they owned most of the land, but they also owed $500 000 to the bank. If they owed half a million dollars to the bank for a mortgage over that land, then our assets still equal our interests, but his time, our assets of $1.8 million dollars is equal to the interests of the owners, 1.3 million plus the interests of external parties or liabilities of half a million – they are split into those two groups.

Appendix Three

The Accounting Equation

Two types of equity holders

(I) Internal equity holders
--> owners
--> **owner's equity**
Claims of the owners

(II) External equity holders
--> external parties
--> **liabilities**
Claims of outsiders

Lecture Overhead: The Accounting Equation (cont)

Ok, so building that up, assets equal equities and we slipped that up into our assets equaling our internal equities, claims of our owners, and our external equities, claims of external parties, over the assets of our business. So our assets equal our owner's equity plus our liabilities. And to put it another way, assets minus liabilities equals owner's equity.

So the assets of our business, what we own, less our liabilities, what we owe, equals what the owners are entitled to, or what the owner's have, their stake in the business. Now you should be very comfortable manipulating that accounting equation in either way. If I give you two components, you should be able to tell me what the third is, because you know it has to balance. Ok, you know that your assets have to equal your owner's equity plus your liabilities. So if I give you two components, you should easily be able to work out the third.

Appendix Four

The Accounting Equation

Therefore:

Assets = Equities

Assets = Internal Equities
and External Equities

Assets = Owners Equity and
Liabilities

Assets - Liabilities = Owner's Equity

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