

*A Study of Theme and Information Structure in Postgraduate Business Students'  
Multimodal Written Texts: A SF-MDA of Management Accounting  
Texts*

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**Abstract**

THEME and INFORMATION structure facilitate the development of well-structured text, thereby providing cohesion within language. Systemic functional linguistics' (SFL) research in multimodal business communication and representation has been confined to workplace and school contexts. Similarly, empirical research studies of finance have investigated students' performance in finance courses and the effect of class attendance on students' performance. However, no published study has explored and analysed the textual features in tertiary finance texts. The importance of examining THEME and INFORMATION structure in tertiary settings becomes pertinent since it plays a vital role in maximising accounting students' learning experiences. The study aims to explore the multimodal literacy and numeracy social practices of five first-year Master of Commerce Accounting international students enrolled at an Australian university. It is of interest as most international ESL/EFL students in Australia and elsewhere are enrolled in business programs (Alyousef & Picard, 2011).

This study reports on a case study designed to investigate and analyse the use of THEME and INFORMATION structure in a key topic in the *Management Accounting* course, namely budgeting schedules. It employed the multidimensional approach proposed by Alyousef (2013) to describe the participants' learning experiences and to investigate and explore the organisation of the multimodal texts. The Systemic Functional Multimodal Discourse Analysis (SF-MDA) revealed the frequency of two patterns: Theme reiteration and the linear pattern. Theme reiteration in accounting is used to define the accounting numerical values. Thematic choices in the budgeting tables are constrained by the authoritative source of knowledge for the presentation of information structure in accounting statements. A number of other interesting findings related to the flow of information structure in the multimodal tables are presented and discussed. The study concludes with the pedagogical implications of the findings.

Keywords: literacy practice; Management Accounting literacy; thematic progression; Systemic Functional Linguistic (SFL); Multimodal Discourse Analysis (MDA); business discourse

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## 1. Introduction

THEME and INFORMATION structure provide cohesion within language since they organise the flow of information in a text. Michael Halliday (1985, p. 38) defines Theme as the constituent which serves as “the point of departure for the message”. It is the element which comes in first position in the clause. Students need to assign and interpret a Theme appropriately. They also need to be aware of the structuring of information in terms of Given (or known) and New. Informational choices typically determine contextual known/given information in a clause. Research on business studies’ literacy and numeracy practices, however, has been mostly directed through the empirical studies of student’s performance in Principles of Finance courses (Sen, Joyce, Farrell, & Toutant, 1997) and the effect of class attendance on students’ performance (Chan, Shum, & Wright, 1997). Similarly, research studies in accounting have investigated the readability of accounting narratives in financial accounting textbooks over the past years, as measured by the length of words and sentences (Davidson, 2005) and lexical choices as measured by word choice and frequency of use (Conaway & Wardrope, 2010; Hyland, 1998; Rutherford, 2005). It is therefore pertinent to investigate the development of THEME and INFORMATION structure in international postgraduate Business students’ multimodal management accounting texts that encompass tables.

The study employed the multidimensional approach proposed by Alyousef (2013) to describe the participants’ academic literacies and to investigate and explore the organisation of the multimodal texts. Academic literacies are construed in the present research as set of socially situated multimodal literacy and numeracy social practices. Halliday’s (1994) systemic functional linguistics (hereafter SFL) provides powerful analytical tools for foregrounding the processes through which students construct disciplinary specific knowledge in a community through academic literacies. This approach to language focuses on language, context, and text. The scope of SFL is very broad; it sets out the explanation of how humans create meaning of language and various semiotic resources.

The meaning-making functions in Halliday’s (1994) social semiotic are grouped into three language metafunctions for construing (or organising) meaning *ideationally*, by representing and ordering our experience, perceptions, consciousness, and the basic logical relations (oriented towards the field of discourse), *interpersonally*, by enacting certain social relationships (oriented towards the tenor of discourse), and *textually*, by weaving ideational and interpersonal meanings into a textual whole (oriented towards the mode of discourse). The three language metafunctions provide useful linguistic tools for a Systemic Functional Multimodal Discourse Analysis (henceforth SF-MDA) of discourse: TRANSITIVITY (types of processes or verbs), MOOD (speech function) and modality (obligation and degree of certainty or usuality), and THEME and INFORMATION structure. They correlate respectively with three register variables of FIELD (what is talked about?), TENOR (how social roles and identities are constructed?), and MODE (How are the meanings organised). Due to space constraints, the study explores and analyses the representation of MODE, which is construed by THEME and INFORMATION structure systems.

The two systems play a major role in the unfolding of a text since it weaves the ideational and interpersonal meanings into a textual whole. Garzone (2009, p. 156)

points out that “so far, contributions from linguists specifically dealing with multimodality in business discourse have been relatively few.” As the present study is concerned with investigating business discourse, as well as heeding Garzone’s advice, this Master of Commerce Accounting program course suits the aim of my study. As Lea and Street (2006) point out, multimodal analysis reveals the range of meanings expressed in learners’ activities and genres. As they put it, multimodal analysis aids in theorising “the multimodal nature of literacy, and thus of different genres, that students need to master in order to represent different types of curriculum content for different purposes, and therefore to participate in different activities” (ibid, p. 373).

Data was composed of two group assignments on constructing budgeting schedules, a key topic in the course. The texts were written by 5 international students enrolled at a South Australian university. This study is pertinent as most international ESL/EFL students in Australia and elsewhere are enrolled in business and commerce programs (Alyousef & Picard, 2011). The present qualitative study aims: 1) to investigate the textual meaning (or the dominant Theme type) in the participants’ texts, 2) to describe the participants’ learning experiences, and 3) to investigate whether Kress and van Leeuwen’s (2006) approach to the analysis of visual artefacts is applicable to the semiotics of management accounting tables. The participants’ learning experiences enrich the analyses as the students attempt to provide explanations of their texts and talk about their perceptions of the relevance and significance of the academic practices in the assignment task to those in workplace and in private life situations.

The remainder of this paper is structured as follows. I first present a review of key theorists relevant to this study and the literature related to Thematic progression patterning and Information structure, in particular SFL-based research studies. Then, I present an overview of THEME and INFORMATION structure systems. This is followed by a description of data and methods of analysis. Results and discussion of the findings are then presented, followed by a conclusion and pedagogical and theoretical implications.

## **2.Literature review**

As the present study construes academic literacies as set of socially situated multimodal literacy and numeracy social practices, I present a review of the literature which takes SFL and multimodal academic literacies approaches into account. Mustaffa and Aman’s (2007) SFL study revealed that the thematic progression competence of the selected limited English proficiency (LEP) first year undergraduate learners was average. The researchers analysed the first paragraph of each essay and the longest paragraph consisted of only 12 sentences. Although the findings may contribute towards language learning, they are not generalisable since the data cannot be claimed to be a representative sample. Michael O’Toole (1994) was the first to utilize SFL in multimodal discourse analysis; in his book *The Language of Displayed Art*. As Martinec and Salway (2005, p. 339) state, systemic functional semiotics is “the one theoretical framework whose followers have concerned themselves with [intersemiotic] relations between images and texts”.

It was Kress and van Leeuwen (2006) who first outlined methods for the SFL analysis of the textual layout (or organization) in images and texts through the systems of composition, framing and salience. The first system is achieved through information

value (Given-New, Ideal-Real, important or less compositions), whereas the latter two are expressed through framing (lines) and salience (size/colour/tone) features.

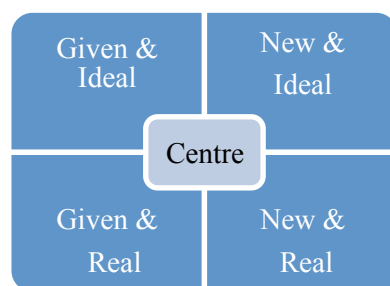


Figure 1: The grammar of visual artefacts in terms of compositional zones (Kress & van Leeuwen, 2006)

Their ‘information value’ compositional zone layout is shown above in terms of zones: Centred, Circular, mediator composition, horizontal (or left-right) Given-New compositions, and vertical (or up-down) Ideal-Real compositions. As the present SF-MDA of management accounting texts employs Halliday’s THEME and INFORMATION structure systems, it is pertinent to investigate if Kress and van Leeuwen’s information value composition is applicable to the budgeting tables. Bateman (2011, p. 52) presses the need for “more empirically grounded analysis of a broader range of multimodal documents” in order to verify or disprove Kress and van Leeuwen’s functional interpretations in particular contexts of use, i.e. Given-New and Ideal-Real.

SFL-based research in multimodal communication and representation has been confined to school and workplace contexts. In her book *The Handbook of Business Discourse*, Bargiela-Chiappini (2009) reviews a range of business discourse studies in workplace settings. Thomas (1997), for example, investigated the linguistic structures in a series of management messages in the annual reports of a company, employing Halliday’s (1985) systems of TRANSITIVITY, thematic structure, cohesion and condensations. Camiciottoli (2010) found that discourse conjunctive devices in financial disclosure texts were more frequent in the earnings presentations than in the earnings releases, suggesting their pragmatic use influences the interpretation of the message. Although some studies have explored the linguistic (Bargiela-Chiappini, 2009; Crawford Camiciottoli, 2010; Perren & Grant, 2000; Thomas, 1997) and the technical (Craig & Moores, 2005) characteristics of management accounting discourse produced by corporate writers or speakers, the academic literacy practices of tertiary students in this business course have been overlooked.

Whereas multimodal communication research has been conducted across the fields of mathematics (O’Halloran, 1996, 2000, 2005, 2008), science and computing (Drury, O’ Carroll, & Langrish, 2006; Jones, 2006; O’Halloran, 2000), and nursing (Okawa, 2008), tertiary business discourse has not been fully explored (Alyousef, 2013).

Okawa (2008) investigated the process of constituting academic literacy practices of a Japanese first year nursing student. Data were collected through classroom observations, interviews and document analysis. Okawa employed SFL in the analysis of texts to investigate, respectively, discourse at the epistemological level and texts at

the lexico-grammatical level. This in turn enabled the researcher to trace the close relationship between assignments and literacy practices in nursing. The findings showed that discipline-specific knowledge is acquired through socialisation into a particular discipline. Wake (2006) also investigated the effectiveness of dialogic negotiations in economics tutorial talk of five Chinese-Malaysian students of Engineering and Business Communication majors during the course of a semester. The findings showed that any linguistic transformations in understanding were “not at all neatly incremental as described in the literature” (ibid, p. 317) since the semiotic mediation process was largely ‘devolutionary’. This different view of semiotic mediation, Wake argues, is a process of semiotic remediation. Analysis of interactions showed significant deconstruals toward more congruent representations of economic activity before students could progress in their learning.

Alyousef (2013) investigated only the experiential meaning in financial tables and graphs in management reports utilising capital budgeting techniques, employing Halliday’s (1994) system of TRANSITIVITY and O’Halloran’s (1999, 2000) multisemiotic framework for the analysis of mathematical symbolism. Although these reports are one of the most commonly used genres in the finance course, there is a lack of a text-based investigation that explores and analyses the flow of THEME and INFORMATION structure systems in international students’ reports.

As the paper aims to investigate the way international postgraduate business students construct cohesive texts, it is pertinent to provide an overview of the major systems that realise the textual metafunction, namely THEME and INFORMATION structure systems.

## **2.1 THEME and INFORMATION structure systems**

THEME and INFORMATION structure are the major structural systems within the textual metafunction in Halliday’s (1994) SFL approach since they facilitate the development of well-structured message, thereby providing cohesion within language. As Halliday and Matthiessen (2004, p. 94) state, “thematic and information structure carries the rhetorical gist of the clause”. Both the choice of INFORMATION and THEME systems facilitates the development of a text as a whole.

Thematic progression analysis aims to explore the development of information in a text. The notion of thematic progression was first introduced by Daneš (1974) and later developed by Fries (1981) and Halliday (1985). The system of INFORMATION consists of two functional elements, Given and New. Theme involves three major systems: choice of type of Theme, choice of marked or unmarked Theme, and choice of predicated or unpredicated Theme. There are three different Theme types: textual, interpersonal and topical. Unmarked Theme means “most typical/usual (Eggins, 2007, p. 318), while Marked Theme refers to “atypical, unusual” choice. The latter is a variation of the *unmarked whereby focused information is foregrounded*. The unmarked Theme conflates with the Mood structure constituent- i.e. Subject (in a declarative clause), Finite (in an interrogative), Predicator (in an imperative), or WH (in a WH-interrogative); the marked Theme conflates with other constituents. For example, the Circumstantial element *In Switzerland* in the sentence ‘*In Switzerland they give you chocolate*’ moved to thematic position.

Table 1: Theme types

Textual Theme	Continuatives (e.g., <i>umm, yeah, ...</i> ) Conjunctions (e.g., <i>and, or, but</i> ) Conjunctive adjuncts (e.g., <i>however, therefore, because, although, ...</i> ) Wh-relatives (e.g., <i>which, who, ...</i> )
Interpersonal Theme	Vocatives (e.g., <i>Henry!, Sir!, ...</i> ) Modal adjuncts , including mood and comment adjuncts (e.g., <i>probably, usually, frankly, ...</i> ) Finite elements (e.g., <i>modal auxiliaries, 'be' auxiliary, ...</i> ) Wh-question words (e.g., <i>who, what, where, how, why</i> )
Topical Theme	Participant Circumstance Process

Another unusual case of marked Theme that occurs in conversations is when the Theme conflates with the Complement which more usually follows the verb, as in ‘*some of the comments I’ve scrubbed out*’. The clause initial Subject ‘I’ is unmarked Theme. Eggins (ibid, p. 320) states that “skilful writers and speakers choose marked themes to add coherence and emphasis to their text” through the use of Theme Predication.

The most obvious thematic progression pattern in a text is the linear (or ‘sequential’/‘zig-zag’) pattern by which information placed in Rheme position is packaged in a subsequent Theme. This pattern makes a text cohesive through the cumulative development which is based on newly introduced information. Another thematic pattern which is drawn on to manage information flow is referred to as the fan pattern or multiple-Theme pattern. This pattern involves a clause (typically at the beginning of a paragraph or a text section) introducing a number of different pieces of information each of which are then picked up and used as Themes in subsequent clauses. A third form of thematic progression is one which re-iterates or maintains the Theme focus rather than developing it. It is referred to as Theme re-iteration (or the parallel) pattern. In this pattern, the repetition of a particular element typically gives a clear focus to the text. Martinec (1998, p. 162) argues that feature selections and structures of the textual meaning “enable the ideational and interpersonal ones to form the cohesive wholes called phases”. Thus, any stretch of text can be said to be cohesive when it is consistent in the experiential, interpersonal, and textual meaning.

Having reviewed the literature relevant to the present study, and presented an overview of the major systems of the textual metafunction, next I describe the data and method of analysis.

### 3. Data and method of analysis

The corpus was composed of two group assignments in a *Management Accounting* course that were written in English (6,263 words) by 5 students: Group 1 (2,024 words) and Group 2 (4,239 words). This course is one of the foundation courses in the Master of Commerce Accounting coursework program. Each group encompassed 2-3 students. The participants were given the pseudonyms: Abdulrahman, Abdullah and Steve (Group 1) and Omar and Peter (Group 2).

The study employed the multidimensional approach proposed by Alyousef (2013) to describe the participants' learning experiences and to investigate and explore the organisation of these texts. Drawing on the study of situated literacies (Barton & Hamilton, 1998; Barton, Hamilton, & Ivanič, 2000; Lave & Wenger, 1991; Lea, 2004; Lea & Street, 1998, 2006; Street, 1984, 1998, 2003, 2012) and the New London Group multiliteracies model (Cazden et al., 1996; Cope & Kalantzis, 2000, 2013; Kalantzis & Cope, 2012) I investigated the participants' learning experiences and their explanations of their texts.

Three structured interviews were conducted with Abdulrahman, Abdullah and Omar in order to elicit their perceptions and experiences in the *Management Accounting* course. Being a member of the participants' culture facilitated my understanding of their Discourses (with a capital 'D', following Gee, 1996, 2008, 2012), which refer to forms of life which integrate words, gestures, glances, attitudes, values, beliefs, insights, experiences, and social identities. Since this qualitative study is underpinned by the interpretive 'worldview' it seeks to explore how participants describe and understand learning tasks rather than merely explain what they do (Terre Blanche & Kelly, 2002).

Two analytical tools were used for the Systemic Functional Multimodal Discourse Analysis (SF-MDA) of the multimodal data, Halliday's (1994) THEME and INFORMATION structure systems and Kress and van Leeuwen's (2006) principle of information value. Following Halliday (1985), independent clauses in tables were numbered and annotated in order to calculate the frequency of occurrence of each Theme type across the two texts. The use of numerical/quantitative data in this qualitative research aims to make statements such as "some," "usually," and "most" more precise. Information structure analysis of the tables was conducted in terms of given/new and ideal/real in order to find out whether Kress and van Leeuwen's (2006) approach to the analysis of visual artefacts in terms of compositional zones is applicable to the semiotics of budgeting schedules, and it was conducted in terms of information value composition, Given-New and Ideal-Real.

In the next section I present and discuss the findings of the interviews, and conduct an SF-MDA of budgeting schedules.

#### **4. Results and discussion**

As stated earlier, the two texts were written by two groups: Group 1, Abdulrahman, Abdullah and Steve, and Group 2, Omar and Peter. The social purpose of the task was to produce 9 supporting schedules that were needed to compile a 'Budgeted Balance Sheet'. As Abdullah (Personal Communication, March 19, 2011) states, "inmanagement we prepare next year's budgeted balance sheets to meet expected obligations". For examples, cash receipts compare income against expenses and as to whether a company will need to resort to funding or not. This task did not constrain students for space. Each group received a distinction mark: 45 and 45.50 out of 50 respectively.

The following table compares numeracy representations in the two groups' texts:

Table 2: A pivot table of numeracy representations in the participants' texts

Group	Words			Tables	Footnotes
	Tables	Text	Total		
1. Abdulrahman , Abdullah & Steve	1416	608	2024	14	26
2. Omar and Peter	1495	2744	4239	12	0

Group 1 concisely presented its findings in 14 tables, in addition to a 206-word memo and 402-word footnotes. Although the participants in this study cannot be claimed to be a representative sample, the findings of the SF-MDA and the interviews may offer educational insights for students and tutors. Tables comprised 69.96% of the discourse in Group 1's text, in contrast to only 35.26% for Group 2, which preferred to further elucidate and provide explanations for the highly condensed accounting numeracy calculations provided in the tables.

#### 4.1 The interviews

The interview data showed that the participants made use of their previous literacy and numeracy experiences, for example in IELTS, MS Excel spreadsheets, and the lecturer's PowerPoint presentation on 'budgeting'. Abdulrahman (Personal Communication, March 17, 2011) argues that while doing this assignment he was influenced by his previous literacy and numeracy practices when he worked in a bank after completing undergraduate studies. Also Abdullah practiced Excel Spreadsheets when he used to work in a company after he finished his undergraduate study. Both Abdulrahman and Omar agree that the lecture's PowerPoint® Presentation on 'Budgeting' was very helpful for them as it included examples similar to the requirement of the given task. This indicates that writing is a social negotiation process of meaning-making between context, students' understanding of the text and their prior knowledge and experiences. Louhiala-Salminen (2009, p. 307) argues that the business environment change at the turn of the new millennium "resulted in a wider view of Business Communication as a discipline". These changes were caused by leaps in technology, business structures, and globalisation. As a result, the participants needed a sound knowledge of Information Literacy (IL) in order for them to succeed in their learning.

The first literacy practice the two groups engaged with was to analyse language data in the Task Sheet. They then decided to meet in order to discuss and plan the literacy practices each one will contribute. Abdulrahman attended three 2-hour meetings with his group members. Group 2 organised three 3-hour meetings with Peter in order to accomplish the assignment together. Group 2 divided the text writing job between them, though Peter helped Omar by proofreading his comments and providing feedback where applicable. Influenced by their previous workplace experiences, the two groups resisted the requirement of the assignment. This was exemplified by the inclusion of footnotes and the attachment of a memo by Group 1 and the use of explanatory notes by Group 2. Group 1 (Abdullah, personal communication, March 19, 2011) states, "imagine you are in a company and your manager asks you to do budgeting calculations, will you give him the schedules without at least writing an introduction mentioning what you have done?" Although not required in the task sheet, Omar (personal communication, March 13, 2011) states that



My group decided to use text to accompany the tables in order to elucidate and provide further explanations of the highly condensed accounting numeracy calculations. This shows the tutor that we fully understand the content of the tables and that it relates to real life professional situations since, in addition to tables, we would be required to present textual explanations to our manager. (Group 2)

Unfortunately, the tutor did not mark the memo or the footnotes in each schedule as they were not requested in the task sheet.

Group 2 presented explanatory text along with each schedule although it was not required by the task. As the text was redundant the lecturer marked only the tabulated schedules, as shown in the sample below:

Summary Cash budget					
	Q1	Cash	Q3	Q4	Total
Beginning cash balance	595,000	553,000	557,250	5107,750	595,000
Add: cash collections	1,210,000	1,335,000	1,460,000	1,585,000	5,590,000
Total cash available	1,305,000	1,388,000	1,517,250	1,692,750	5,903,000
Less: disbursements					
Materials	(541,000)	(596,000)	(651,000)	(706,000)	(2,494,000)
Direct labour	(204,000)	(224,000)	(244,000)	(264,000)	(936,000)
Mfg.Overhed					
Indirect material	(10,200)	(11,200)	(12,200)	(13,200)	(46,800)
Indirect labor	(40,800)	(44,800)	(48,800)	(52,800)	(187,200)
Other overheads	(31,000)	(36,000)	(41,000)	(46,000)	(154,000)
Selling and admin	(100,000)	(100,000)	(100,000)	(100,000)	(400,000)
Equipment purchase	(1,000,000)	0	0	0	(1,000,000)
Dividends	(50,000)	(50,000)	(50,000)	(50,000)	(200,000)
Total disbursements	(1,977,000)	(1,062,000)	(1,147,000)	(1,232,000)	(5,418,000)
Excess(deficiency) of Cash available over disbursements	(672,000)	326,000	370,250	460,750	485,000
Financing:					
Borrowing	1,000,000	0	0	0	1,000,000
Repayments	(250,000)	(250,000)	(250,000)	(250,000)	(1,000,000)
Interest	(25,000)	(18,750)	(12,500)	(6,250)	(62,500)
Total financing	725,000	(268,750)	(262,500)	(256,250)	(62,500)
Ending cash balance	553,000	557,250	5107,750	5204,500	5204,500

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Figure 2: A sample from Group's 2 assignment

Similarly, Group 1 added a MEMO which was considered redundant as well. Abdullah (personal communication, March 19, 2011) argues that although the task sheet did not require them to write a memo, they strongly believed that in workplace settings they would normally attach a memo along with the 10 budgeting schedules when presenting the findings to a manager.

Although the inclusion of text by the two groups may correspond with workplace practices, it did not add new information. Mckenna (2004, p. 117) notes that "becoming fully literate in the higher education institution means coming to terms with its rituals, norms, values, language and behaviours". This finding may be attributed to the students' desire to 'show-off' their learning. Or, perhaps, it is caused by the lack of confidence on the part of the students in the meaning-making they feel they can achieve using only tables. The second reason for the inclusion of the extra information may be more plausible as some Saudi students believe that they will be rewarded when they show their calculations in case the final total is not right. Contrary to what Picard (2006, pp. 112-113) argues, students' unrewarded literacy

and numeracy practices were not caused by the “mismatch between their individual primary discourses, especially Islamic and Arab Discourses and Western academia”, but rather from their resistance to the academic expectations set up for them which contradicted with their professional experiences and expectations.

Past experiences-‘micro-disciplinary’ knowledge (Chandrasoma, 2007) or ‘interim literacies’ (Paxton, 2007, 2011)– play a crucial role in influencing students’ interpretation and production of texts. Abdullah (Group 1) worked on MS Excel spreadsheets when he was employed in a company after completing his undergraduate study. Similarly, Abdulrahman (personal communication, March 17, 2011) states that while doing this assignment, he was influenced by his previous accounting literacy and numeracy practices in a bank. One of the Group 2 members, Omar (personal communication, March 13, 2011), was asked if his previous literacy and numeracy practices influenced him while doing this assignment, and he noted that part of the IELTS helped him write explanations to the tables. He is here referring to the first task in the IELTS academic writing module, in which students are required to write a 150-words report to describe the information or the process exemplified in the illustrative line graph, bar graph, pie chart, table or diagram. Both Abdulrahman and Omar agreed that the lecture’s PowerPoint Presentation on ‘Budgeting’ was helpful for them as it included examples similar to the requirements in this task sheet. As Abdulrahman states, the module’s *Course Profile* contained examples on budgeting that resembled this task. The re-contextualisation of generalised and abstracted financial schedules of discourse provided the group with significant input and assistance in their compilation of the ‘Budgeted Balance Sheet’. Interim literacies (Paxton, 2007) and social connections were re-contextualised in students’ current discursive setting.

One of the Group 1 members, Abdulrahman, faced some difficulties related to compounding the interest rate and using the MS Excel spreadsheets. As he puts it, “my experience [in Excel] is rudimentary”. Abdullah and Steve had to revise Abdulrahman’s Excel calculations and to input the required finance formulas. With the exception of Abdulrahman, the familiarity of all the other students with Excel impacted upon their ability to successfully complete the task. Abdullah (personal communication, March 19, 2011) argues that

*My group faced only one difficulty. Upon receiving the tutor’s feedback, we realised that we had to add back the depreciation amount to our calculations. The tutor informed us that we should not include this category in the schedules since it was stated in the fourth page of the task*

He sent an e-mail to the lecturer to make sure if they had to add depreciation to their calculations or not and, unfortunately, he did not receive a reply. He then decided to post his enquiry in the module’s discussion forum and the tutor sent a general message to all the students. Similarly, Group 2 (personal communication, March 13, 2011) sent an e-mail to the lecturer to make sure if they had to add depreciation to the calculations, and he replied negatively, though it did not have any difficulties in undertaking the task.

In response to the question ‘what is the role of this kind of task in real life?’ Omar (Group 2) argues “this task was helpful both in real life and in the workplace, for

example, we can predict sales based on past quarters' performance". Similarly, Abdulrahman (Group 1) states that everyone had to frequently assess his expenses against the financial plans, though in the workplace more detailed criteria is used such as labor cost and material. While Omar agree that this task would relate to their future workplace practices, Abdulrahman and Abdullah (Group 1) argue that this was not always the case, as new issues and situations may not match what they encountered in the academic context. Abdullah contends that this practice does not resemble workplace practices and, as postgraduates, "we have to follow workplace management accounting practices".

#### 4.2 The SF-MDA

The findings of the SF-MDA revealed the extensive use of Theme reiteration (or parallel Theme) pattern in the budgeting tables, compared to the orthographic texts (only 8 instances in Text 1 and 3 in Text 2). Linear (or 'zig-zag') pattern (the Theme follows that of the rheme element of the preceding sentence) rarely occurred in the two texts, as shown below.

Table 3. The frequency of thematic progression patterns in the two texts

Text	Reiteration				Linear		Multiple-Theme		Total Instances	
	Freq			%	Freq	%	Freq	%	Freq	%
	Text	Tables	Total							
One	8	666	674	99.41	4	.59	0	0.00%	678	100.00
Two	3	1540	1543	100.00	0	0.00%	0	0.00%	1543	100.00

Generally speaking, the excessive Reiteration of a Theme reduces the communicative dynamism of the message since it doesn't contribute to the development of the message. This seems to be a characteristic feature of beginning ESL/EFL learners. The pragmatic function, however, for the high frequency of Theme reiteration in the budgeting tables is that the topical Themes adhere to the conventions of information structure in financial statements. As a result, these Themes increase the communicative dynamism of the message and contribute to a well developed message. The SF-MDA of Group 2's balance sheet, for example, showed the frequency of Theme reiteration of "assets", "liabilities", "total", and "current", as shown below.

Table 4. SF-MDA of Group 2's balance sheet

<b>Theme</b>	<b>Rheme</b>
<b>Current assets</b>	
Cash	204,500
Accounts receivable	192,000
<i>Inventory</i>	
Raw materials inventory	83,200
Finished goods inventory	<u>235,000</u>
	<u>318,200</u>
<b>Total</b>	<b><u>714,700</u></b>
<b>Non-current assets</b>	
Plant & equipment	9,000,000
(Accumulated depreciation)	80,000
<b>Total</b>	<b><u>8,920,000</u></b>
<b>Total assets</b>	<b><u>9,634,700</u></b>
<b>Liabilities</b>	
Accounts payable	<u>143,400</u>
<b>Total</b>	<b><u>143,400</u></b>
<b>Net assets</b>	<b><u>9,491,300</u></b>
<b>Equity</b>	
Ordinary shares	5,000,000
Retained earnings	<u>4,491,300</u>
<b>Total</b>	<b><u>9,491,300</u></b>

Theme reiteration in a balance sheet typically aims to provide detailed information related to the sub-categories. THEME and INFORMATION structure choices in financial statements are constrained by the generally accepted principles (or ideologies) of accounting for the presentation of financial statements, i.e. agreements acting as invariant guides, adopting Chambers' term (1995: 249). For example, the categories of the balance sheet are classified according to the principle of liquidity that contributes to the cohesion and coherence of the text. Assets and liabilities are classified according to their general characteristics: CURRENT or NON-CURRENT. Each category is listed in the order of liquidity, under its relevant classification. Chambers (1995, pp. 248-249) also points out that these categories are influenced by "mathematics, economics, law, judgment and choice, language and communication, metrology, and politics and ethics". These seven enquiry fields bear on the processes and products of accounting.

The topical Themes in the two texts were often preceded by elements derived from the textual system, the conjunctions 'then' and 'in addition', that linked paratactic clause complexes. Linear thematic progression is expected in expository accounting genre as each sentence logically relates to what has preceded. Conjunctions though did not fill the Theme position by themselves since their main function is relating the

message to the immediate context of the preceding clause. Examples of thematic progression in the two texts are shown below.

Table 5. Examples of thematic progression in the two groups' texts

Text	THEME (T)			RHEME (R)	Theme Type
	Textual	Interpersonal	Topical		
One			For the S line,	Q1 2011 sales were calculated at 55,000, based on ....	
			For the L line,	Q1 2011 sales were calculated at 45,000, based on ....	Reiteration or parallel progression pattern
			These calculations	resulted in total sales projected revenue ...	Linear (or 'sequential' or 'zig-zag') progression pattern
			The results	Linear (or 'sequential' or 'zig-zag') progression pattern	are shown below in Table 1:
			40% of Q1 sales	were paid in cash, resulting in a sum of \$220,000.	Reiteration or parallel progression pattern
		In addition,	20% of the credit sales from the previous quarter	were included,	Reiteration or parallel progression pattern
			which	amounted to \$60,000.	Reiteration or parallel progression pattern
			We then	deduct interest expense,	
			which	is taken from the summary cash budget in Table 7.	Linear (or 'sequential' or 'zig-zag') progression

					n pattern
		Deducting <i>these expenses</i> from gross profit	gives a quarterly net income figure ....		Linear (or 'sequential' or 'zig-zag') progression pattern
		<i>We</i> then	allow for \$200,000 of dividends to be paid, ...		Reiteration or parallel progression pattern
	while	the remaining 20%	are paid in the next quarter.		
		The figure of \$717,000	is taken from the direct materials budget ...		Linear (or 'sequential' or 'zig-zag') progression pattern
Two		Financing for the proposal	is assumed over a one year period, at a 10% per annum interest rate.		
		Repayment of the <i>financing</i> amount	is expected to occur within the year, and ....		Reiteration or parallel progression pattern
		Sales in the fourth quarter of 2010	are expected to be 50,000 S frames and 40,000 L frames.		
		<i>Sales</i> in each product line over the next two years	are predicted to grow by 5,000 units each quarter over the previous quarter.		Reiteration or parallel progression pattern
		f) Sales for each product	will grow by 5000 units each quarter.		
		g) <i>Product sales</i> price	will remain constant over 2011.		Reiteration or parallel progression pattern

The Theme in the first two examples in text 1 is marked as it is announced explicitly by means of the expression *for*. The deictic element *which* in text 1 is thematic as it serves two functions: as a marker of some special status of the clause (i.e. textual) and as an element in the experiential structure (i.e. topical).

Halliday (2005, pp. 270-271) states that New is realised by “tonic prominence” and by “what is made prominent (by the speaker) to the listener”; however, Rheme is not always associated with New in the budgeting tables. It can be argued when the numerical value in the table is elicited from the task sheet both the Theme and the Rheme are associated with Given information, whereas when the Value is not mentioned in the task sheet the Rheme is associated with New.

This finding contradicts with Kress and van Leeuwen’s (2006) ‘information value’ compositional zone layout. Kress and van Leeuwen’s left-hand and right-hand spatial dimensions do not always correspond to the linguistic concept of ‘the given’ and ‘the new’. The positions ‘ideal’ and ‘real’ are determined according to the ‘material value’ of each category in the budgeting tables. The topical given Themes along the tables’ horizontal axes are presented to the left side by the categories and the sub-categories, whereas the new key information is represented by the numerical values to the right side. The numerical values in the budgeting tables do not always correspond with ‘New’ information. As a result, left-hand and right-hand spatial dimensions do not always correspond to the linguistic concept of ‘Given’ and ‘New’.

Clauses in budgeting tables have *thematic equative* structures (Halliday, 1967) as each takes the form *x equals*. As Group 1’s text comprised tables only, it had more instances of this structure type than Group 2. This structure type is called pseudo-cleft in formal grammar since it is reversible. It is linked by a relationship of identity, expressed by some form of the verb *be* that links the Rheme with the Theme, and has two identification functions: “a ‘thing to be identified’ and an ‘identifier’, that with which it is to be identified” (ibid, p. 224). So, for example, the meaning of the clause “Sales units for S Q1 55,000” in the table below is realised semantically as “Sales units [Token, Identified] for the S Line in Quarter 1 is [Pr: Implicit Relational Identifying]55,000 [Value, Identifier]”.

Table 6: Group 2’s Sales Budget for S and L Line

<b>Sales budget S</b>					
	Q1	Q2	Q3	Q4	Total
Sales units	55,000	60,000	65,000	70,000	250,000.00
Selling price per unit (\$)	10	10	10	10	10
Total revenue (\$)	550,000.00	600,000.00	650,000.00	700,000.00	<b>2,500,000.00</b>
<b>Sales budget L</b>					
	Q1	Q2	Q3	Q4	Total
Sales units	45,000	50,000	55,000	60,000	210,000.00
Selling price per unit (\$)	15	15	15	15	15
Total revenue (\$)	675,000.00	750,000.00	825,000.00	900,000.00	<b>3,150,000.00</b>
<b>Total Sales (\$)</b>	<b>1,225,000.00</b>	<b>1,350,000.00</b>	<b>1,475,000.00</b>	<b>1,600,000.00</b>	<b>5,650,000.00</b>

A tutor may also elaborate by saying “the number of units sold for the S Line in the first Quarter is 55,000” since this interpretation is congruent with the spoken mode of accounting budgets. Unlike the spoken mode, messages are condensed in the Sales

Budget through the deletion of action processes, human actors, and the sequences of clauses. The total number of *thematic equative* structures in the Group 2's Sales Budget above is 35. The discourse of the multimodal budgeting schedules genre is highly metaphorical since their components use the implicit relationship that links the Rheme with the Theme.

Having presented and discussed the findings related to the SF-MDA of the budgeting tables, what follows is the conclusion and the implications.

## **5. Conclusion and implications**

Employing the multidimensional approach proposed by Alyousef (2013), I have described the participants' academic literacies in a *Management Accounting* course and investigated the organisation of THEME and INFORMATION structures in the multimodal texts.

Drawing on the study of situated literacies (Barton & Hamilton, 1998; Barton et al., 2000; Lave & Wenger, 1991; Lea, 2004; Lea & Street, 1998, 2006; Street, 1984, 1998, 2003, 2012) and the New London Group multiliteracies model (Cazden et al., 1996; Cope & Kalantzis, 2000, 2013; Kalantzis & Cope, 2012) I have investigated the participants' actual practices and their explanations of their texts. The participants simulated workplace practices by adopting the role of management accountants in order to provide nine supporting schedules that were needed to compile a "Budgeted Balance Sheet".

The research case study revealed that accounting discourse is not only represented by quantitative technical calculations but also by qualitative material. Students were expected to engage in interdiscursive multimodal literacy and numeracy practices resulting not only from their engagement in non-technocentric tasks (the use of accounting discourse) but also in technocentric tasks (the use of word processors, spreadsheets). The participants' transfer of previously constructed meaning-making practices into this learning context showed that the social stocks of tacit knowledge are "being built up, maintained, transmitted and also modified in communicative processes" (Günthner & Knoblauch, 1995, p. 5). The transfer of previously constructed meaning-making practices into learning contexts forms what the New London Group called 'Transformed Practice' (or the 'redesigned').

Influenced by their previous workplace experiences, the participants resisted the requirement of the assignment. This was exemplified by the inclusion of footnotes and the attachment of a memo by Group 1 and the use of explanatory notes by Group 2. Although these practices may correspond with workplace practices, the tutor disregarded them when assessing the texts because they were not part of the academic task. This resistance may have either positive or negative impact upon the development of students' literacy and numeracy practices.

Drawing on Halliday's SFL and Kress and van Leeuwen's (2006) inter-semiotic principle of information value, I have conducted an SF-MDA of *Management Accounting* texts for the systems of THEME and INFORMATION structures. The findings indicated the high frequency of Theme reiteration in financial tables and the rare occurrence of Linear thematic pattern. The overuse of Theme reiteration in the



budgeting tables provides a strong topical focus by presenting additional information that is constrained by the generally accepted principles (or ideologies) for the presentation of information structure in accounting statements. The participants successfully managed to construct the ten budgeting schedules.

The analysis of informational choices in budgeting tables extends Kress and van Leeuwen's (2006) approach to the analysis of visual artefacts in terms of compositional zones. Kress and van Leeuwen's criteria for recognizing spatial configurations were disconfirmed in the analysis of the budgeting tables. Both the thematic and the rhematic statuses are combined with either Given or New. Regardless of its position in the table, a numerical value in *Management Accounting* tables can be either given or new information, depending on whether it is known before calculations or not, i.e. elicited from the task sheet (Given) or calculated (New). It is therefore argued that, unlike orthographic texts, the Rheme in the budgeting tables can be either Given or New. This finding is in line with Jones' (2006) argument that an image or text occurring on the right side does not necessarily present new visual or verbal information.

This research paper contributes to our understanding of thematic progression in a key topic in the *Management Accounting* discourse, budgeting tables. A number of pedagogical and theoretical implications can be suggested as an outcome of this research study. The SF-MDA of the budgeting tables showed that SFL is a powerful resource for analysing meanings inscribed in them. As thematic progression patterning plays a vital role in organizing the flow of THEME and INFORMATION structure in a text, it can be emphasized in teacher training and in the teaching and learning of writing, particularly in the teaching of English for Business Purposes (EBP). Students' learning experiences and their understanding of the meaning making resources may be greatly enhanced and, in turn, affect them in and beyond university. For a text to be coherent, Business students of *Management Accounting* need to be aware of the generally accepted principles of accounting that govern thematic and informational structure choices in the budgeting tables through the overuse of Theme reiteration.

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