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Learning Accounting through Non-Accountants: Constructivism and Deep Learning into Accounting Education

Teaching Cycle 1

2006/07

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1. Introduction

This paper explores the usefulness of adopting constructivist learning environments i.e. case studies into accounting education and qualitative research methodology i.e. content analysis to assess student learning outcomes. Many educators and cognitive psychologists have applied constructivism to the development of learning environments and emphasised its need for promoting deeper learning (Marton and Saljo, 1976; Vygotsky (1978; Shuell, 1986; Jonassen, 1991, 1994; Honebein, 1996). However, to a larger extent, in accounting education the deep learning approach (i.e. learning with understanding) (Marton & Saljo, 1976; Biggs, 1999) has been largely overtaken by the relatively higher proportion of students who adopt a surface approach to learning (Beattie et ai, 1997; Lucas, 2001). In fact, the previous studies in accounting education showed more students using organised form of surface learning i.e. preparing a limited range of topics and memorising facts contained within a text (e.g. professional guidelines and techniques), rather than involving in active construction of knowledge and engaging with the subject matters (e.g. Chan et al., 1989; Accounting Educational Change Commission, 1990; Bauer et al., 1994; Lucas, 2001). In a similar vein, the accounting educators have often been caught and criticised for their learning preferences that are not consistent with constructivist and deep learning approaches (Brown & Guilding, 1993; Wolk et al., 1997). In fact, there is a historical practice reproduced among accounting educators to use more information transmission through simplified materials of teaching and examination questions that can be answered from lecture notes, rather than proViding intellectual challenges and encouraging students' own ideas such as through case studies (Entwistle and Tait, 1990; Adler et al., 2000: Spencer, 2003).

Within this context, this paper reports the findings of a teaching cycle that grounded in and derived from constructivist epistemology and deep learning principals implemented in a level 2, management accounting module at the School of Business, University of Wales (Aberystwyth) as an attempt to deconstruct surface learning approach from the accounting education, particularly in the management accounting modules. The particular module was run over two semesters, consisted of thirty six (36) hours lectures and eight (8) tutorials and undergone a critical restructuring during 2006/07 academic year to promote students' critical analysis and evaluation abilities. First, the module scope was expanded from typical organisational level accounting to the broader society level and anticipated educating business students on how accounting is embedded in all social actions and particularly how accounting concepts
and decision models are being used by the ordinary people with or without any previous knowledge. Then, appropriate case study activities were included for the course work/assessment and asked students to analyse and evaluate certain decision scenarios of the people's real life using the accounting concepts. Subsequently, the qualitative methods i.e. content analysis coupling with the deep learning theory was used to analyse the student learning outcomes.

The paper reports the findings of this teaching cycle exercise and intends to explore its significant contributions to the accounting education. The forthcoming sections of the paper are organised as follows. Section one introduces the existing accounting education in universities whereas the related educational theories behind this practice is summered in the third section. Then, the case study context and the planned teaching and assessment practice will be explained in the section four. The section five will present the content analysis of student performances in order to access the effectiveness of achieving learning outcomes. The concluding remarks will be made in the final section, including a discussion on how these findings could be used to make future developments within accounting education.

2. Context of accounting education

Since 1980s, qualitative Accounting researchers have attempted to study accounting practices in the contexts in which it operates and understood accounting as both a social and an institutional practice (Hopwood, 1983; 1987, 1994; Burchell et al., 1980; Tomkins & Groves, 1983; Hopwood & Miller, 1994). They have initiated case studies on how accounting systems actually work in practice rather than how accounting systems can be improved, and argue for accounting studies in micro-macro research level (Mennicken, 2002). This trend has widened the interpretive and critical scrutiny in accounting research and opened up for accounting studies at wider social and political context and created an understanding on accounting as a situated context-dependent practice (Laughlin, 1995; Jonsson & Macintosh, 1997).

However, the previous research in accounting education speculate that this interpretive/critical trend has not been transferred properly into the accounting education, as many accounting students still adopt more surface learning approaches (Chan et al., 1989; Accounting Educational Change Commission, 1990; Bauer et al., 1994; Lucas, 2001) and accounting educators prefer more on information transmission methods in their teaching i.e. simplified materials (Brown & Guilding, 1993; Wolk et al., 1997; Entwistle and Tait, 1990; Adler et al., 2000: Spencer, 2003). Thus, these researches suggest that the current context of accounting education does not much encourage learners to be involved in an active construction of knowledge i.e. through case studies and to be engaged with the subject matters and logics and intellectual challenges through their own ideas and creative work (Entwistle and Tait, 1990; Adler et al., 2000: Spencer, 2003). In addition, the orthodox is still dominant with programmed questions and unitary solutions i.e. class room or end of semester exams (Kelly et al., 1999), scientific analyses of curriculum
reforms (e.g. Hartnett et al., 2003) as well as with positivist and deterministic approaches in student outcomes assessment Le. questionnaire survey (e.g. Gracia & Jenkins, 2003).

Therefore, within accounting education, there are strong criticisms against the overemphasis of surface learning methods and demands to adopt more deep learning methods and learner-centred approaches based on constructivist epistemology (Garteh, 1988; Beattie et al., 1997; Ralph et al., 1997; Mladenovic, 2000; Ralph et al., 2000; Ainsworth, 2001). In response to these criticisms, there is an increasing trend among accounting educators to introduce some creative/innovative, qualitative and cross-disciplinary courses and approaches to accounting education (e.g. Montano et al., 2004; Stout et al., 2004; Stout & West, 2004; McPhail, 2005; Wickramasinghe & Alawattage, 2007). For example Montano et al (2004) have discussed the importance of encouraging non-technical skills for accounting students and presented the evidence of using decision-oriented complex case studies in a financial statement analysis class at a Spanish University. Stout & West (2004) have explained the positive experiences of managing an innovative management accounting graduate course, consisting of three modules (strategic cost management, planning, and performance measurement) in one University. McPhail (2005) discussed about a community service project (work for the public good) for an Accounting and Business ethic course to encourage students to consider the public interest. Furthermore, Wickramasinghe & Alawattage (2007) has produced a critical management accounting text book with an innovative framework of learning and end of chapter materials for the accounting educators and students. We believe the learning cycle exercise presented in this paper further contribute to this new trend.

3. Scholarship on the Issue

The deep/surface dichotomy in higher education learning is probably one of the most researched subjects in educational research (e.g. Laurillard, 1993; Kember, 1997). Deep learning, in its simplest meaning, consists of a critical analysis of new ideas, the linking of these ideas with already known concepts and principles, and thereby leading to greater understanding and long term retention of the concepts to use for problem solving situations in unfamiliar contexts (Biggs, 1999).

The original work of Marton and Saljo (1976) explored the differences of deep and surface learning approaches of students when they are given doing a particular task to perform. Deep learning students are believed to be the ones who attempt to understand the whole picture and try to comprehend and understand the academic work. On the other hand, the others who try to remember facts contained in the text and identify and focus on the facts that they thought might be important for assessment are the surface learners. According to Saljo (1979) deep learners believe learning as either making sense/abstracting meaning or as interpreting and understanding realities whereas the surface learners think learning as either a quantitative increase of knowledge, as memorising or as acquiring facts, skills and methods that can be used later.
In relation to Bloom (1956)’s taxonomy, deep learners wish to develop higher order cognitive thinking skills such as application, analysis, synthesis and evaluation. In other words they need to know how to compare and contrast the things and also how to integrate the elements into a new whole based on their relationship (Campbell, 1998). Subsequently, the surface learners require comprehension and reproducing knowledge for later assessments (Bloom, 1956). Fundamentally, the deep learners are more intrinsically motivated (e.g. incorporate new ideas through learning and experience) whereas surface learners are more extrinsic (e.g. interested about grades and next tests) (Campbell, 1998). However, these deep or surface learning style and approaches are determined by the student’s personality, motivation and study methods as well as the contextual factors such as the learning task, the attitudes and enthusiasms of the lecturer and the forms of assessment (Entwistle, 1988; Ramsden, 1992; Beattie et al, 1997; Biggs, 1994, 1999; 2003) (Table 1).

Deep learning approach follows the constructivist epistemology that believe “learning” as an active, constructive, intentional, complex, contextualised, reflective and collaborative exercise and encourages learners to construct meaning through relevant learning activities (Vygotsky, 1978; Bruner, 1986; Shuell, 1986; Fosnet, 1996; Biggs, 2003; Chapman et al., 2005). The constructivism and deep learning is grounded in the daily world of the learner’s experience and allow learners to develop meaningful, scaffolded, student-directed or deep learning and create meaning for them selves (Bruner, 1986; Fosnot, 1996; Biggs, 2003). This type of learning effectively takes place within a social or participatory environment that encourages reflective dialogue and collaboration.

Education researchers have pointed out that there is a strong effect of interactivity on learning (Bosco, 1986) and demonstrated how people learn faster and develop strong attitudes toward learning when they engage in a participatory environment to actively construct the knowledge (Bruner, 1986). They expect multiple perspective, authentic activities and real-world environment to frequently associate with the constructivist learning environment. Particular as Wilson & Cole (1991) summaries the constructivist epistemology in deep learning need educators to combine four principles to create a constructivist design, teaching and learning environment: embed learning in a rich authentic world problem-solving environment, provide for authentic versus academic contexts for learning, provide for learner control and use errors as a mechanism to provide feedback on learners’ understanding (p. 59-61).
### Table 1 Characteristics and Factors that Encourage Deep and Surface Learning Approaches

<table>
<thead>
<tr>
<th>Deep Learning</th>
<th>Surface Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition:</strong></td>
<td>Examining new facts and ideas critically, and tying them into existing cognitive structures and making numerous links between ideas.</td>
</tr>
<tr>
<td><strong>Characteristics</strong></td>
<td>1. Looking for meaning. 2. Focussing on the central argument or concepts needed to solve a problem. 3. Interacting actively. 4. Distinguishing between argument and evidence. 5. Making connections between different modules. 6. Relating new and previous knowledge. 7. Linking course content to real life.</td>
</tr>
<tr>
<td><strong>Encouraged by Students’</strong></td>
<td>1. Having an intrinsic curiosity in the subject. 2. Being determined to do well and mentally engaging when doing academic work. 3. Having the appropriate background knowledge for a sound foundation. 4. Having time to pursue interests, through good time management. 5. Positive experience of education leading to confidence in ability to understand and succeed.</td>
</tr>
<tr>
<td><strong>Encouraged by Teachers’</strong></td>
<td>1. Showing personal interest in the subject. 2. Bringing out the structure of the subject. 3. Concentrating on and ensuring plenty of time for key concepts. 4. Confronting students’ misconceptions. Engaging students in active learning. 5. Using assessments that require thought, and requires ideas to be used together. 6. Relating new material to what students already know and understand. 7. Allowing students to make mistakes without penalty and rewarding effort. 8. Being consistent and fair in assessing declared intended learning outcomes, and hence establishing trust.</td>
</tr>
</tbody>
</table>

Source: Reproduced from the Higher Education Academy, Engineering Subject Centre 2000-2007, [www.engsc.ac.uk](http://www.engsc.ac.uk)
Motivating students to have the right approach to the subject is a challenge for any lecturer. In fact, the educators should be able to make sure the students maintain the right balance of actual learning (deep learning) and memorising (surface learning), and to set up the learning environment that supports the learning activities appropriate to achieving desired outcomes (Biggs, 2003). Thus, the teaching methods and the assessment tasks should "align" with the learning activities in order to trap the learners to achieve learning outcomes. The research findings indicate that the instructional methods of the educators such as personalised teaching (e.g. small groups), increased Faculty/student as well as student/student interactions (e.g. social, academic), active and interactive teaching methods (e.g. case studies), explicit discussions of learning/teaching skills (e.g. clear and openness) and allowing student input into module goals and methods (e.g. fleXibility) particularly needed to promote deep learning (Campbell, 1998; 5ims, 2006).

However in reality this classification of deep and surface are not the attributes of individuals. Therefore, despite of inner personal interest, the same person may use both approaches in different times and places in different circumstances (Biggs, 1999). The reason is the particular approach adapted depended on the person's motivation at the time, the deep with intrinsic motivation and surface with extrinsic motivation. In practice, there is also another approach known as the 'achieving' or 'strategic' in which the learner undertaking whichever method he/she believed maximising the grades and marks (Ramsden, 1992). This approach is a well organised form of surface learning as the true motivation still is obtaining good marks. Overall, the research findings mentioned in this section shows the approaches of learning and particularly the importance of deep learning. Thus, a fuller understanding on the teaching-learning context as well as the complexity and nature of deep and surface learning approaches is needed to design any form of learning and teaching strategies. Having considering this scholarship on the issue of constructivism and deep learning, we will then make an empirical investigation on its application into the particular teaching cycle designed and implemented for the level 2, management accounting students at the 5MB (UWA).

4. Planned teaching and assessment practice

The accounting module, in which this teaching cycle experimented, was run over two semesters, consisted of thirty six hours lectures and eight tutorials. The module was assessed 70% of a two hour examination at the end of semester 2 and 30% by means of one piece of coursework set in semester 2. There were two changes made to its previous year's module outline. Firstly, the module scope was expanded from typical organisational level accounting to the society level and anticipated educating business students on how accounting is embedded in all social actions and particularly how accounting concepts and decision models are being used by the ordinary people with or without any previous knowledge.
The objective behind this was to introduce accounting as a broader phenomenon rather than just a technical aspect used for business decisions. Secondly, appropriate case study activities were included for the course work/assessment and asked students to analyse and evaluate certain decision scenarios of the people's real life using the accounting concepts. The objective of this was motivating students to deeply learn application part of the management accounting techniques including its limitations and behavioural aspects by adopting their critical analysis and evaluation abilities. It was thoroughly based on the principles of constructivist epistemology and deep learning approach (Bruner, 1986; Fosnot, 1996; Biggs, 2003).

**Figure 1 Intended topic and module learning outcomes set for the course work**

**Topic learning outcomes. Students will learn to:**
- identify decision scenarios;
- identify and analyse relevant decision criteria;
- identify incremental costs;
- translate criteria used by decision makers into accounting language;
- analyse and categorise decision making practices.

**Module learning outcomes. This assignment contributes to students learning to:**
- **Evaluate and analyse** decision scenarios using appropriate accounting techniques;
- **Discuss and evaluate** the limitations of accounting techniques;
- **Explain and evaluate** the behavioural aspects of management accounting (including its role in organisations and society).

The main component of the designed course work was 1500-1800 word report, which must provide an in-depth analysis of selected real life decisions made by people chosen by the students (e.g. colleagues, friends, family members). The work was grounded on three topics discussed in the management accounting module: the role of accounting in organisations and society; decision making models; and incremental cost analysis in decision making. The intended topic and module learning outcomes were clearly stated in the module outline at the beginning (Figure 1).

As the topic learning outcomes of this assignment the students were expected to learn how to identify decision scenarios, identify and analyse relevant decision criteria, identify incremental costs, translate criteria used by decision makers into accounting language and analyse and categorise decision making practices. Subsequently, the Module learning outcomes of this assignment contributed to the students learning to evaluate and analyse decision scenarios using appropriate accounting techniques, discuss and evaluate the limitations of accounting techniques and explain and evaluate the behavioural aspects of management accounting (including its role in organisations and society).
Three steps were followed in the implementation process. First, the students were given the theoretical knowledge on above three topics through interactive lecture sessions. Thus, following the deep learning principles the students were asked to form small groups and then interview each other to find out accounting decisions of their own personal life (Figure 2). By this way the student interactions (both lecturer/student and student/student) has been promoted. It also helped the lecturer to link those three lecture topics to the students’ real lives. The lecture was conducted on the findings of their own decisions and concepts were applied to analyse their own findings.

Figure 2 Mini-group activities promoted during the lectures

<table>
<thead>
<tr>
<th>Quick Quiz 1</th>
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<tbody>
<tr>
<td>• Think of a decision you have had recently, and which involved some financial implication?</td>
</tr>
<tr>
<td>• Think about a decision you had involved in society/community, and which have some financial implication?</td>
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</table>

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<tr>
<th>Quick Quiz 2</th>
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<tbody>
<tr>
<td>• Think about a situation in your personal life that followed rational model to make your decision. Explain the steps and criterion you followed?</td>
</tr>
<tr>
<td>• Think about any situation in personal life you followed bounded rational model to make your decision. Explain the criterion you adopted?</td>
</tr>
</tbody>
</table>

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<tr>
<th>Quick Quiz 3</th>
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<tbody>
<tr>
<td>• Think about a real life situation in which you applied incremental cost method for your decision making. Discuss in groups: Which model you followed? What relevant/irrelevant costs considered? Any opportunity cost? Qualitative factors?</td>
</tr>
</tbody>
</table>

In the second step, the students were asked to submit a plan of 100 words (in advance of Semester 2) stating the types of decisions and people they were going to interview and how were they going to manage the interviewing process. They were advised to include a timeline for the whole work explaining their strategy for achieving the assignment deadline (Figure 3).

In the final and the main step students were asked produce an individual report consisting of 1500 - 1800 words. They were supposed to consider people’s daily life economic decisions they make to achieve various livelihood objectives (e.g. buying/renting a new house/car, spending holidays, buying household items, changing careers, etc.) (Figure 4). Then, they had to consult between 6 and 8 people known to them and identify any major decisions they have made in the recent past (i.e. past 6 months).
Figure 3 Instructions given to students (100 words plan)

**Required:**

(i) Plan of 100 words.

You should prepare a work plan for this assessment in advance of Semester 2. This requires you to state the types of decisions and people you are going to interview and how are you going to manage the interviewing process. You are advised to include a timeline for the whole work explaining your strategy for achieving the assignment deadline.

Figure 4 Instructions given to students (main assignment)

(ii) **Report of 1500 - 1800 words.**

People in their day to day life make a series of economic decisions to achieve various livelihood objectives (e.g. buying/renting a new house/car, spending holidays, buying household items, changing careers, etc.). Consult between 6 and 8 people known to you and identify any major decisions they have made in the recent past (i.e. past 6 months). Conduct an in-depth interview focused on their objectives, steps and criteria adapted to decision making. Then, critically and comparatively analyse their objectives and any alternatives to their decisions that they considered, what decision making rules they followed, what incremental costs were concerned with those decisions, and what qualitative factors were involved in the decision analysis. Finally, compare and contrast the behaviour of these decision makers and identify the decision making model/models that each one adopted (e.g. rational, bounded rational, political). Explain the reasons for your judgments.

According the instructions, their next step was to conduct in-depth interviews focusing on those people's objectives, steps and criteria adapted to decision making. Then, the students critically and comparatively analysed people's objectives and any alternatives to their decisions that they considered, what decision making rules they followed, what incremental costs were concerned with those decisions, and what qualitative factors were involved in the decision analysis. Finally, the students compared and contrasted the behaviour of these decision makers and identified the decision making model/models that each one adopted (e.g. rational, bounded rational, political). They were required to explain the reasons for their judgments. The detailed guidelines as to the purpose and methodology of the assignment were provided by an introductory session/workshop which was taken place at the end of first semester (11th December 2006) (Figure 5). Also, the additional queries/issues related to the course work were answered by the lecturer at the end of regular lecture sessions and via e-mails/blackboard. The concepts seemed quite well received and students asked intelligent questions at this stage. Finally, a presentation structure was proposed during an interim workshop organised in the second semester, but was kept it open and flexible for creative adoptions and modifications (Figure 6).
Figure 5 Detailed guidelines as to the purpose and methodology of the assignment

- You are required to pick between 6 and 8 people for the study. You are advised to choose decision making situations which generally interests you (e.g. buying/renting a new house/car, spending holidays, buying household items, changing careers, etc).
- But, the condition is that they should have been involved in a major financial decision, recently.
- You might have to think more creatively and critically about the application of theories to the decisions in question.
- You may want to find a bit of exploratory research on how the selected people have considered two or three options before making the final decision.
- Make sure to have enough data from the interviews to complete the project. So prepare your own questions and general guidelines for the interviews. You may focus on:
  - The decision makers’ background (Who?)
  - The decision making objectives (What? and Why?)
  - Steps and criteria adapted to decision making (How?)
  - Who else involved/consulted? Why?
  - Incremental costs and other information concerned with those decisions? The calculative practice?
  - How did they choose the final decision? Why?
  - Qualitative factors involved in the decision analysis
- Take down the notes while interviewing (if possible tape record).
- Based on above notes write down the individual stories of each interviewee (the cases) and attach it to the appendix.

Figure 6 Instructions given on the presentation structure

The structure of presentation is flexible and the following provide you some hints on how to organise it:

- Introduction
- Decision making in Organisation and Society: The process, rules and models (the underlined theory in summary)
- Decisions in focus and Decision environment/context (of your study)
- The people interviewed and their individual background
- Decision alternatives, selection rules and models: The Practice (your data and analysis)
- Evaluation of peoples’ decision making behaviour (overall comments)
- Conclusions
- Appendices and References

In order to make sure the constructivism and deep learning is properly encouraged (Vygotsky, 1978; Bruner, 1986; Entwistle, 1988; Ramsden, 1992; Beattie et al, 1997; Biggs, 1994, 1999; 2003), overall the lecturer tried to show genuine personal interest in the subject throughout and ensure the students have enough time for the discussions of key concepts
during lectures (also used practical real life examples) and the students were given enough time to ask questions/email and clarify any misconceptions.

Also, the lecturer attempted to create active learning environment with student/student interactions (e.g. small group discussions) as well as student/lecturer interactions (e.g. answering individual questions) during the lectures and practical tasks related to assignment (e.g. interview data collection). As the assessments itself require careful thought, analysis and evaluation of peoples' behaviour the students had to use their ideas together (e.g. to compare and contrast the behaviour). They were free to choose interviewers and interview topics and were expected to use previous knowledge (e.g. decision models and cost concepts) to new context (e.g. interviewed people). They were given plenty of time for mistakes prior to finalising the work (without any penalties) as it was in their own hands and set timing. The lecturer made sure to students that his guiding and marking was always consistent and fair in assessing declared intended learning outcomes. They were clearly informed that more marks of the coursework would be given to the interviews and methodology and the discussion and analysis parts of the report.

5. Analysis of student performances

The "content analysis", informal interviews and participant observation were the methods used for evaluating the teaching cycle. It has entwined with an alternative methodology e.g. grounded theory approach to assess deep learning and brought qualitative methods within interpretive/critical accounting research to accounting education. As the deep learning experience is more a qualitative exercise it was thought the feedback should come from a similar perspective. In fact, the lecturer believed it is difficult to assess any cognitive learning exercise by quantitative methods such as questionnaire survey with closed ended questions (with yes/no or rated answers). The triangulated feedback methods helped me to compliment and contrast the data and enrich the quality of my performance evaluation.

Mainly, the 'content analysis' of student essays was used as the main method of evaluating this teaching cycle experiment. As the planning was done in the using the deep learning principles, the feedback work had been done from the deep learner’s perspective (Entwistle, 1988; Ramsden, 1992; Beattie et al, 1997; Biggs, 1994, 1999; 2003). "Has the surface learners still dominated this coursework?" That was the research question set in mind when conducting the feedback work. Thus, the comparisons and contrast the "contents" of student-essays with "deep learning characteristics" (Table 1) were done to find out the extent the students have achieved intended learning outcomes. For instance, by carefully analysing students' essays, the attempts were made to recognise how many of them have focussed on the central question of the assignment (e.g. in assignment guidelines) and how many of them applied the right concepts (that they previously learned) for the analysis. Whether, they have used the concepts with proper meaning and understanding, how did they conduct the interview process, their
interactions with the interviewees and how did they distinguish argument and evidence and linked them to the central question of the assignment. Finally, an effort is made to figure out whether they were successful in relating the course content to real life which was the main expectation of this coursework. Overall, these analyses expected know any evidence of creative thinking, critical analysis and logical interpretations the central themes of successful deep learning.

Alternatively, the informal interviews/discussions with some selected students were used to get feedback from students' perspective. It made sure to select two opinion-leaders (always ask questions), two enthusiastic students (regularly attending the classes) and two easy-riders (who miss the lectures regularly). Three open ended questions were asked from them to find out their general opinion about the coursework, problems they faced and the areas they suggest for improvements. The purpose of this cluster sampling was to find out the different views from different student personalities (in fact from potentially different learners). Since the lecturer/student and student/student interaction in the class room and during the coursework was at the positive side, this feedback method thought to be very effective. Finally, the participant observations on student behaviour in the Module (during lectures/tutorials/coursework) were used as a facilitating tool for this feedback taking process (e.g. noticing easy riders).

As the first step, the essays submitted by the students were first and second marked and analysed the marks distribution to get an initial assessment of their performances. The marking scheme applied was as follows: introduction and theory - 10%, interviews and methodology, including structure and presentation - 35%, discussion and analysis, including overall structure and style - 45% and finally evaluation and conclusion - 10%. This analysis of the final marks of the coursework showed that the majority (44%) of the students were in the range of 50-59 which is assumed as a significant performance comparing the nature of coursework (Table 2). Overall, the total of 18% was in over 60, 44% in 50-59 and 38% below 49 with 4% failed. It shows that the marks were standard distributed and indicates a statistically significant result on the coursework marks.

### Table 2 Analysis of Coursework Marks

<table>
<thead>
<tr>
<th>Class</th>
<th>Marks Range</th>
<th>Number</th>
<th>Percentage (0/0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First class</td>
<td>70% and over</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Upper second</td>
<td>60%-69%</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Lower second</td>
<td>50%-59%</td>
<td>25</td>
<td>44</td>
</tr>
<tr>
<td>Pass</td>
<td>40%-49%</td>
<td>19</td>
<td>34</td>
</tr>
<tr>
<td>Fail</td>
<td>Below 40%</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>56</td>
<td>100</td>
</tr>
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</table>

However, there were a disappointing number of marks in the 40s (34%), due to sparse case notes for some to absence of theory or analysis. As the initial course work design failed to set a word limit for appendices, with the result that many were substantial pieces of work; and as a
consequence examiners were not able to penalise students who had exceeded the report word limit by incorporating their case notes into the body of the report. Perhaps unsurprisingly, tabular analysis was often more accomplished than the textual explanation accompanying it. However, there were also several very good reports and more very good case summaries. Subsequently, the results of the content analysis reflected that there were 18% deep learners, 44% moderate learners (including strategic learners) and 38% surface learners in the class (Table 3).

Table 3 Content Analysis of Student Essays

<table>
<thead>
<tr>
<th>Marks Range</th>
<th>Percentage (%)</th>
<th>Reasons based on Content Analysis (based on deep learning characteristics)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60% and above</td>
<td>18</td>
<td>Creative, insightful, critical and methodical, knew the meaning of concepts, applied the appropriate theory to data analysis, clearly distinguished the argument and evidence, focused on the central question, interviewing process well managed with organisation and interaction, linked course content to real life and appropriate examples, excellent presentation and structure. Presumably, these are the deep learners.</td>
</tr>
<tr>
<td>50%-59%</td>
<td>44</td>
<td>Showed sound knowledge of the essential material, reasonable understanding of the accounting theory, some analytical ability, answers the course work question and is generally accurate, including mainly correct use of methods and techniques (where relevant), but contained occasional mistakes and/or information that is not well organised and presented. This group is more closed to deep learners. However, there was a subset that paid attention only to methodology and analysis sections. This group was totally careless in their organisation and presentation. It seems they reflect the characteristics of strategic learners. Thus, they had set certain marks level in their minds and achieved only that.</td>
</tr>
<tr>
<td>Below 49%</td>
<td>38</td>
<td>Some owing to sparse case notes. Others to absence of theory or analysis. Tabular analysis was often more accomplished than the textual explanation accompanying it. It showed their inability for creating critical interpretations with appropriate link to theory. More descriptive rather than analytical. Interviewing process was weak. Conducted only few interviews (below the required number and quality) and the length of their interview notes showed weaknesses of doing organised work with clear focus. The work was poorly organised and presented. The class notes were reproduced and the case notes were incorporated into the body of the report to achieve word limit. Overall, inability to link course with the real life. This group looks like surface and strategic learners.</td>
</tr>
</tbody>
</table>

Even though, such a generalisation is too ambiguous and rude as the learning approaches are largely context dependent (Campbell, 1998) and motivational (Ramsden, 1992), the close examination of the essays and the regular observations of student behaviour supported and validated this point.
Thus, the easy riders (the student regularly missing the lectures and tutorials) were the ones mostly included in this surface learner category. These easy riders used to collect the handouts from fellow students and the course information via blackboard and tried to work out something for the coursework rather engaging in any academic interactions with other students and lecturer. In fact, there were some students in the list who had appeared only few times in the lectures. This is obviously a constraint from the context (particularly from the student perspective) the lecturers faced when achieving the course work objectives.

In fact, as educational theorists (e.g. Entwistle, 1988; Ramsden, 1992; Beattie et al, 1997; Biggs, 1994, 1999; 2003) believe the students must show some encouragements from their side if they want to gain any form of deep learning. They should have a kind of intrinsic curiosity in the subject, a determination to do well and mental engagement when doing academic work, appropriate background knowledge for a sound foundation, time to pursue interests, through good time management and positive experience of education leading to confidence in ability to understand and succeed. Particularly, from the observational experience of the lecturers it could have argued reasonably that these poorly performed students (38%) in this management accounting module clearly lacked of intrinsic curiosity in the subject (e.g. many of them rarely asked questions in lectures or tutorials even though our repeated motivation), a clear determination to do well and mental engagement when doing academic work (e.g. they did not regularly follow the lectures and tutorials and many did not workout tutorial questions instead of our warnings and advises) and more importantly the time to pursue interests, through good time management (e.g. many of them started the interview process too late and made last minute queries on the essay question despite our regular encouragements). However, 44% over 50 and 18% over 60 clearly indicate that the majority of the management accounting students in this exercise were in the correct developmental approach. They have produced several very good reports and more very good case summaries. Specially, 18% of them expressed clearly a deep learning approach to the coursework which is an encouraging fact for us to the next academic year.

Moreover, the informal interviews with selected students helped to find out student perception on the course work exercise. As an understanding between the students and the lecturers were already been established, the selected interviewees were keen to give their feedback. A few general and open ended questions were asked and students given the freedom and flexibility to give detailed answers. Importantly, they were invited to make critical and constructive comments. Overall, there were some interesting and useful views made by some interviewees.

For example, we could use the following narratives/statements made by the interviewees to reflect their positive attitudes and optimistic feelings on the assignment.

1. "I really enjoyed this assignment. It is different to our previous experiences. It is good to meet people and share their experiences."
Actually, I learned accounting from non-accountants." - An enthusiastic (19/04/2007)

2. "It is a creative assignment. By doing it, I learned many things for the future. Not only about accounting but how to interview people, analyse interview data and writing reports. Even, my family enjoyed it as I interviewed them..." - An enthusiastic (19/04/2007)

3. "Always I like for practical work. It promotes our thinking. It trains us how to apply and test the things we learn. Main thing is this exercise is not boring. Actually, I had some doubts when this was introduced. But everything was cleared after the workshop session. " - An opinion leader (19/04/2007)

4. "The assignment is good. I tried very hard to do it my best. But, I am not fully happy. I should have done a better analysis. I think we need pre-training for the data analysis - I mean before the coursework. But, this is a useful and innovative assignment. I love it. I know many enjoyed it. " - An opinion leader (19/04/2007)

As noted, these narratives were mainly produced from the interviews of enthusiastic students and opinion leaders. Obviously, they were relatively positive and constructive about the assignment. The content of those statements clearly shows the characteristics of deep learners as they all were happy to learn by doing practical and innovative tasks in their coursework. It reflects their intrinsic motivation and curiosity (Saljo, 1979; Ramsden, 1983, 1992; Biggs, 1994) for the coursework. Specially, the fourth statement made by an opinion leader showed his/her desire/hunger to learn more and the dissatisfaction and self criticism about the own work.

Alternatively, I found following comments which were more pessimistic and mixed nature.

1. "It is different but difficult. Time consuming. In second semester we have more coursework (for other subjects). I think it is ideal to do it in the first semester." - An opinion leader (20/04/2007)

2. "It is good to do as a group work. I am not good at talking to people. But I can write and analyse. It was good if I had someone to conduct the interviews." - An opinion leader (26/04/2007)

3. "I think you should give the marking scheme in advance. May be with the assignment guidelines. Then, we can plan and work to get good marks." - An easy rider (26/04/2007)

4. "It is quite challenging. Interviewing people and selecting appropriate questions is not easy. We need some experience to do that." - An easy rider (27/04/2007)

The above comments highlight the characteristics of surface learners who search the ways of avoiding too much workload and new work. Hence, their focus is not mainly on academic areas abut emphasising other
factors. This reflects their extrinsic motivation for the coursework (Saljo, 1979; Ramsden, 1983, 1992; Biggs, 1994). Also, there was a comment from a strategic learner in quoting number 3 as his/her mind worked for organised ways of earning marks and passing the coursework. Thus, his/her mind was likely to be motivated primarily by the fear of failure (Ramsden, 1992; Biggs, 1994).

However, these comments reflected very important insights for the future developments of the coursework designs should a similar exercise will be repeated or implemented in another place. Thus, it would have given an idea about how to add few more flavours to encourage the surface learners and to promote/motivate them to become more deep learners. For instance, the inclusion of detailed marking scheme/assessment information to the coursework guideline (e.g. sectional marks), special training session for the interviewing (e.g. a tutorial), confidence building talks (e.g. explain this year's experience) and refining some aspects of the coursework (e.g. different context) may be worth to add. However, as the learning and teaching produce a cycle, the innovations have to be planned very carefully and the learning outcomes have to be tested again and again.

Overall, these narratives/statements reflect how the learning perceived differently by different students. Thus, it shows how the learning shifts from quantitative judgments such as increasing of knowledge, memorising information, acquiring the facts to qualitative conceptions such as making sense and understanding different realities Saljo (1979). However, this learning cycle experience also construct the reality that because of the differences in learning approaches (from deep to surface) the every student may not benefited equally from the same assessment. This alarms us to follow concept of ‘variation’ (Marton & Booth, 1997) to the Module assessments. In fact, the variation was already practiced in this particular management accounting module as it was only 30% of the marks given to the case study coursework, whereas 70% for the 2 hour end of semester 2 examination.

6. Concluding remarks

This paper reports the experience of a teaching cycle that promoted the constructivist epistemology and deep learning approach (Marton & Saljo, 1976; Biggs, 1999) within accounting education at 5MB. It addresses the growing need of accounting educators to adopt deeper learning approaches with constructivist philosophy (i.e. learning with understanding) in order to reduce its over-reliance on the surface learning mechanisms (Garteh, 1988; Beattie et al., 1997; Ralph et al., 1997; Mladenovic, 2000; Ralph et al., 2000; Ainsworth, 2001).

It focussed on the innovative teaching and assessment practice implemented for the Level 2 Management Accounting students during academic year 2006/07. The selected practice invited students to analyse and evaluate certain decision scenarios of the people's real life using the accounting concepts. The rational behind to construct this task was the lack of much deep learning exercises in accounting education (Beattie et
ai, 1997; Lucas, 2001) and the lack of understanding on the role of accounting in society (Hopwood, 1983). It used the original work of Marton and Saljo (1976) and Vygotsky (1978), and subsequent developments made by Saljo (1979), Bruner (1986), huell (1986), Entwistle (1988), Ramsden (1992), Beattie et al (1997) and Biggs (1994, 1999; 2003) etc. to understand the scholarship on constructivist philosophy and deep vs. surface learning dichotomy. Accordingly, it was understood that most deep learning students who bears intrinsic motivation attempt to discover the whole picture and try to comprehend and understand the academic work whereas the surface learners with extrinsic motivation try to remember facts contained in the text and identify and focus on the facts that they thought might be important for assessment. Following this scholarship on the issue, a teaching/learning environment was carefully created to manage the coursework assessment and to promote deep learning approach among students i.e. lecturer/student and student/student interactions, link course topics to students' lives.

The study adopted a qualitative approach to evaluate the effectiveness and mainly used the content analysis and informal interviews as the tools. The characteristics and factors that encourage deep and surface learning approaches (Table 1) were used as the framework of analysis. The findings from the study mainly through the content analysis of student performance showed how this dichotomy was in practice within the selected accounting student group, even though the learning outcomes targeted everybody to become deep learners. Thus, it was found that students were varied in terms of their motivation to the coursework (18% of deep learners, 44% moderate learners/strategic learners and 38% surface learners/strategic learners) and marks were standard distributed. The results of the informal interviews further proved this issue as there were some interesting narratives/statements analysed from students' point view. Accordingly, the deep learners reflected their inner psychological feelings while the surface learners failed to hide their extrinsic motivation. Also, some strategic learners who approached in some organised ways of surface learning were in the group. Importantly, the findings from surface learners' perspective revealed some interesting contextual factors that would be used for further developments, should a similar exercise is repeated i.e. giving detailed marking schemes, interview training workshops.

However, we could not ignore the fact that deep vs. surface learning dichotomy is a function of student motivation which is a more qualitative and subjective estimation/context dependent i.e. learning task, study methods, student's personality and the forms of assessment affects to outcome. The same student may become a deep learner in one particular situation and a surface learner in another. Therefore, the effectiveness of these kinds of teaching and learning practices can not be realistically estimated and its findings can not be easily generalised. So, it is a real challenge to any lecturer to create innovative teaching/learning practices and particularly to find out the right balance of surface and deep elements to effectively motivate and improve the student performance. However, the current study illustrated how we could manage the curriculum impacts
on the learning process and thus encourage more deep learning approaches to accounting education. However, mere enthusiasm and optimism are not enough for the positive outcomes, but the lecturers must create teaching/assessment practices relevant to the real world.

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