



An Exploration of an Academic Literacy Intervention in an Accounting Ia Course

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ABSTRACT

The throughput rate of students pursuing accounting degrees in South Africa is low compared to other business degrees. One of the reasons for this is bottlenecks students have in understanding accounting.

Drawing on Joan Middendorf and Dave Pace's (2004) 'Decoding the Disciplines' (DtD) model, this paper explores the use of the process of DtD in resolving a bottleneck in Accounting. A bottleneck is an area of difficulty commonly experienced by students. The DtD process developed by Middendorf and Pace aims to "unblock" a bottleneck through introducing students to the culture of thinking like a disciplinary expert in relation to a specific "bottleneck". This paper examines how the author has used the DtD principle to clarify the bottleneck of the accounting equation in an attempt to enable students to understand the Accounting IA course.

KEYWORDS : Bottleneck, Accounting Equation, Assets, Owner's Equity, Liabilities, Expenses, Income

INTRODUCTION

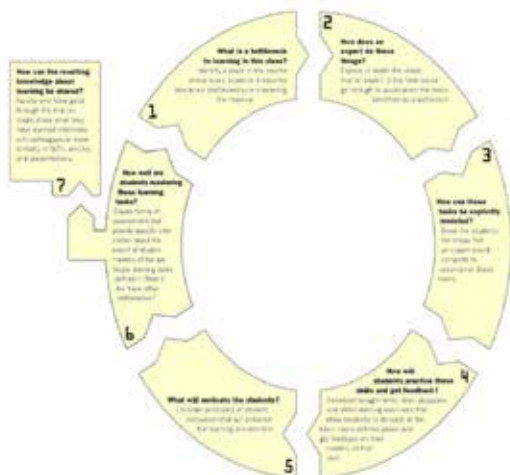
Concerned with a persistently poor throughput rate in Accounting IA course, I wanted to identify topics which students experienced as bottlenecks in their learning. Drawing on Middendorf and Pace's Decoding the Disciplines (DtD) methodology, I constructed strategies for introducing students to the culture of deep learning. The DtD process allows lecturers to identify mental operations or processes used by disciplinary experts when solving specific disciplinary problems or performing certain discipline-related tasks. These processes have often become "automatic" and rudimentary for the expert, but are difficult for novices. The DtD methodology was designed to enable discipline experts to "unpack" the meta-cognitive processes they engage in when doing certain tasks or solving particular problems in their discipline. In the next section I explain the DtD process and how I've engaged with it.

QUESTIONS INVESTIGATED

DtD is a seven-step process, "within which teachers can develop strategies for introducing students to the culture of thinking in a specific discipline and, in the process, level the playing field for those students who do not come to college 'pre-educated'" (Middendorf and Pace, 2004:3).

See Figure 1 below which illustrates the seven step:

Figure 1: Decoding the Disciplines: Seven steps for overcoming obstacles to learning



Source: (Middendorf, 2004)

STEP ONE: IDENTIFYING THE BOTTLENECKS IN ACCOUNTING IA

In the second semester of 2010, a survey was conducted on 78 students who had enrolled in the Accounting IA course between 2008

and 2010 at Helderberg College regardless of their final grades in the course. Students were to rate the level of difficulty of a list of 44 identified topics on a scale of 1 to 5, with 1 indicating that the topic was easy to understand and 5 that the topic was very difficult, thus qualifying it as a bottleneck.

From this exercise students identified the following nine topics as bottlenecks:

- 1) The explanation and application of the elements of the financial statements. Elements of the financial statements are: Assets, Liabilities, Equity, Income and Expenses.
- 2) Definition and recognition criteria of the elements.
- 3) Measurement basis of the elements of financial statements.
- 4) Recognition of the relationship between the elements in the accounting equation.
- 5) Recognition of financial data into special journals, general journals and post to the special ledgers and general ledgers.
- 6) Identification of transactions that impact the following financial statements:
 - a) Statement of financial position.
 - b) Statement of changes in equity.
 - c) Statement of comprehensive income.
 - 7) The preparation of a pre-adjusted trial balance, adjustments to the trial balance and post-adjusted trial balance.
 - 8) Application of basic principles of value added tax.
 - 9) The identification, measurement, recognition, presentation and disclosure of the following items:
 - a) Property, plant and equipment
 - b) Intangible assets
 - c) Financial assets
 - d) Inventories
 - e) Receivables
 - f) Presentation of the statement of income, statement of changes in equity and statement of financial position and disclosure of notes.

According to the survey, the bottlenecks that ranked the highest were 1, 2, 3, 4, and 6. I was greatly concerned that most of these bottlenecks are covered in the first three chapters of the textbook and thus early on the course. These topics had one concept in common, that is: elements of financial statements. An aspect that underpins all five of the areas of difficulty identified by the respondents is the understanding, mastery and application of the accounting equation.

Interviews with some of the students confirmed that students found it easy to memorize the accounting equation, but had difficulty in applying it to various scenarios. Thus I concluded that knowledge of how to apply the accounting equation is a bottleneck in learning an Accounting IA course. In the rest of the paper, I show how subsequent steps in the DtD process enabled me to analyse how an expert accountant understands and applies the accounting equation and how I have used this analysis to help my students come to grips with

using this equation to tackle the five areas of difficulty noted above.

STEP TWO: HOW AN EXPERT APPROACHES THE CONCEPT

This step was the most intellectually demanding of all the steps in the DtD approach as application of concepts came naturally to me. In order to make it possible for me to explain the process of thinking through the accounting equation to my novice students, I had to interrogate the processes I work through when solving an accounting problem that has as its basis the accounting equation.

In a conversation with another Accounting I lecturer, we concluded that we use the following reasoning process in identifying and applying the accounting equation:

- Unpack the accounting equation.
- Understand what Assets, Owner's Equity and Liabilities comprise of.
- Analyse the essence of the accounting equation.
- Realize that Assets always increase on the Debit side and that Owner's Equity and Liabilities always increase on the Credit side.
- Conceptualize different scenarios where one applies the accounting equation.
- Link any accounting problem to the accounting equation.

Our analysis was confirmed by online searches. (<http://www.money-instructor.com/lesson/accountingtransactionlp.asp>)

STEP THREE: DEVISING WAYS TO DEMONSTRATE TO STUDENTS THE STEPS THAT COME NATURALLY TO THE EXPERT

The diversity in South African tertiary institutions means that there are different levels of preparedness amongst students. This poses challenges for devising ways to demonstrate the steps needed to master the accounting equation. The following strategy was however used:

- The importance of understanding the accounting equation was emphasised by stressing that this equation is the 'cornerstone' of accounting. Students were shown how the accounting equation is applied in subsequent accounting courses and how the accounting equation is presented in published financial statements. Students were presented with the Statement of Financial Position and shown how it is a replica of the Accounting equation. Students also observed how the Statement of Income uses the Income and Expense elements, and how the profit or loss from this statement formed part of the Owner's Equity.
- The accounting equation was unpacked by defining and explaining each of its elements.
- Students were shown how the double entry system affected the accounting equation, for example when one purchased a vehicle on credit, the asset (vehicle) is debited thereby increasing its value, and the liability (creditor) is credited also increasing the total on the liability side.
- A variety of activities were done on the board which enabled students to note the interactions between the Assets, Liabilities and Equity.
- Assignments and accounting equation games were posted on the school's Modular Object-Oriented Dynamic Learning Environment (MOODLE) where students did activities outside of class time. A 'chat room' was developed on MOODLE where students engaged in discussions on these topics. I had to be creative in disseminating the information and used both the didactic and dialectic instruction methods.

STEP FOUR: HOW STUDENTS PRACTICE THESE SKILLS AND GET FEEDBACK

According to Middendorf and Pace 'modelling the kinds of mental operations that are necessary for work in a discipline can be crucial elements in a systematic strategy for overcoming obstacles to student learning. But it is unlikely that these patterns of thinking will become part of students' cognitive repertoire unless they have opportunities to practice them and receive feedback' (Middendorf and Pace, 2004:7).

Middendorf and Pace further note that that

"...students can rarely move directly from hearing a complex set of

operations described to internalizing the steps and then to applying them as part of a larger task some weeks later. Learning to think and work within the culture of a particular discipline is more complex than generally appears to be the case to professionals in the field, and students must be given a chance to perfect these skills and to receive feedback that clarifies where they are and are not succeeding. We need to imagine ourselves in a learning situation that is unfamiliar to us, to realize that simply hearing a lecture on a complex process is rarely sufficient to permit us to actually perform the task and to integrate it with dozens of other new procedures" (2004:7)

The following ways were used to enable students to think and work within the culture of accounting.

- Students orally repeated the accounting equation to the class, and also defined the components of the accounting equation. Feedback was given immediately by fellow students and myself.
- Students attempted exercises in pairs. They later were given solutions to the exercise and they marked their own work. This process gave them the opportunity to see where they had gone wrong and then correct the mistakes. If students did not understand the process, their tutor or I were available to assist them. Students got feedback as marked their own exercises.
- Students individually wrote tests or quizzes. 'Open book' tests/quizzes were included as part of the assessment in the hope that students would be able to use the text books to identify and follow the process when answering the questions. Questions given as 'open book' tests/quizzes were application type of questions. Students who did not do well during this assessment, were assigned additional tutorial lessons. Students got feedback both during the test/quiz as they browsed through the text book and also got feedback when the text/quiz was marked.
- Students were divided into competing groups and 'played games' which involved the accounting equation elements. An example of one of the games is where one group would name state 'a transaction' and another group would then state how the transaction affected the accounting equation using the double entry system. The lecturer reserved the right to challenge any participant as part of the game. Feedback was given as the students interacted with each other during the game.
- In groups of 3, students were encouraged to devise a 'puzzle' on the accounting equation. The best puzzle was picked and given to the other students to complete and the writers of the puzzle enjoyed marking it and explaining to the class the answers to their puzzle. Students gave each other feedback. The lecturer monitored to ensure that the answers were correct.
- Copies of receipts and invoices which had been collected from fellow staff members and students were brought to class. A mock business entity was created and students were asked to manually record these receipts according to the accounting equation in this 'new entity'. Feedback was given during the discussion.
- The accounting equation was applied to a context of immediate interest to students, i.e. their student fees account at the College. Students were required to identify the accounting process from the time they paid fees to the use of the fees by the College for various operations. Feedback was given during the discussion.
- Students who achieved a B+ or better grade, were given an opportunity to serve as after-school accounting tutors on the accounting equation topics. After passing and moving on to Accounting II, some of these students were hired to work as Accounting IA tutors.

STEP FIVE: MOTIVATING STUDENTS

Middendorf and Pace states: "It is not sufficient to assume that the structures of learning created by the Decoding the Disciplines process will automatically motivate students. Conscious effort needs to be dedicated to making the students partners in the learning process. The nature of this process allows an instructor to present himself or herself as an ally who has devoted considerable energy to creating a course in which success is possible and who really wants students to do well. Students often respond positively to instructors who are clearly dedicated to creating a level playing field on which students who have not been pre-educated at elite institutions will have the same opportunity to succeed as those who have been more privileged". Middendorf and Pace (2004: page 8)

The following strategies were used to motivate students:

- Students were encouraged to ask questions and share their problems, whether academic or social. It was hoped that by having a personal relationship with students, they would become motivated to do well in their studies.
- Students were given small assignments frequently so that they could practice the accounting equation on a regular basis.
- I shared my humble beginnings with students as evidence that they too could achieve their goals if they were diligent.
- At the beginning of each semester, students were asked to determine their target mark. With each assessment task students monitored their performance in relation to their target mark.
- Students who got good grades were publicly recognized.
- I used various strategies to help students experience a sense of control over their studies: I challenged them, but helped them to manage the challenge and to see the relevance of their work. I also provided quick feedback on tasks. (Raymond Perry, 1996)

STEP SIX: HOW STUDENTS MASTERED THESE LEARNING TASKS

- Students were given assignments, quizzes and tests regularly – both individually and as groups.
- Students did class presentations on the accounting equation topic.
- The final examination (summative) was written at the end of semester.

STEP SEVEN: HOW THE RESULTING KNOWLEDGE ABOUT LEARNING WILL BE SHARED

The findings of this paper were discussed with faculty members and also shared when a colleague conducted a peer evaluation of my teaching. This paper was also presented at the SDA Business Teachers' Conference 2014.

CONCLUSION

As a result of this study:

- There was an improved pass-rate in 2011 as shown in Table 1 below.

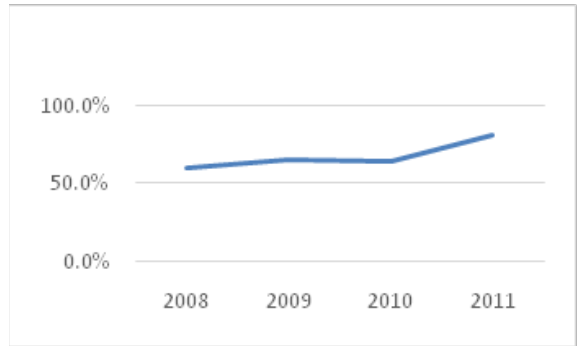


Table 1: Pass rate 2008 – 2011.

- Tutors for Accounting IA were guided on specific topics to tutor.
- Accounting IA class was divided into two classes – the Accounting major students from other business majors.

Middendorf and Pace notes that the DtD approach is a tool which should be adapted to different courses. DtD has enabled me to identify and address bottlenecks in other courses that I teach.

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