

# AIR

Accounting Instructors' Report  
*A Journal for Accounting Educators*

Belverd E. Needles, Jr., Editor

## Summer 2011 AIR Newsletter

### **TRENDS**

Teaching Judgment and Ethics in First-year Accounting: A Good Lecture

Belverd E. Needles, Jr., Ph.D., CPA

### **ARTICLES**

Sustainability Accounting and Reporting

Shirley Polejewski

University of St. Thomas

The Conceptual Framework for Financial Reporting and a Pedagogical Approach Thereto

Stephen A. Coetzee

University of Pretoria, South Africa

Astrid Schmulian

University of Pretoria, South Africa

Redesign of an Online Managerial Accounting Course: Lessons Learned:

Martha S. Doran

San Diego State University

Gary Doran

Developing Research and Writing Skills for First-Year Accounting Students in an Organizational and Social Context

Mary Low

The University of Waikato

Graham Francis

The University of Waikato

### **TEACHING TECHNIQUES**

Using Spreadsheet Software to Teach the Reciprocal Method of Service Department Cost Allocation

Gerald K. DeBusk

University of Tennessee – Chattanooga

Timothy B. Forsyth

Appalachian State University

Using The Schrader-Malcom-Willingham Model to Explain Journal Entries

Carl Brewer

Sam Houston State University

Elsie C. Ameen  
Sam Houston State University

Alice Ketchand  
Sam Houston State University

## Trends

**Belverd E. Needles, Jr., Editor**

### **Teaching Judgment and Ethics in First-year Accounting: A Good Lecture**

Students in first-year accounting often leave with the impression that the numbers in financial statements are fixed and would be the same regardless who was producing them. This impression is fostered by assignments that always result in a right or wrong answer with no room for variation. Most students understand that GAAP are the set of rules, practices, and conventions that describe what is acceptable financial reporting for external stakeholders, but they may find it surprising that a single, normal, everyday accounting choice may be either ethical or unethical. The difference between an ethical and an unethical accounting choice is often merely the degree to which the choice is carried out. The problem with many accounting judgments is that there is no clear limit beyond which a choice is obviously unethical. Thus, a perfect routine accounting decision, such as expense estimation, may be illegal if the estimated amount is extreme but perfectly ethical if it is reasonable. GAAP does not tell managers what specifically is normal and what is extreme. It is more like a speed limit sign that just says “Don’t Drive Too Fast!” Here is an example lecture in six steps that illustrates the role of judgment in ethical financial reporting that you can use in class that any first-year student can understand

**Step 1: Introduction** Uncollectible accounts estimation is a prime example of an accounting decision many managers have to make. Since a company extends credit as an incentive for customers to buy, estimated losses from those who do not pay are considered a cost of the current period even though it will not be known which customers will not pay until future periods and what the amount of non-payment will be. GAAP requires that an estimate of uncollectible accounts be recorded as an expense in the same fiscal year as the revenue from the product is recorded. This follows a basic accrual accounting concept of matching expenses with related revenue. However, even small changes in estimates can have important effects on reported earnings.

**Step 2: Illustration** Assume that a company has operating income of \$100,000 before the estimate of uncollectible accounts. Also, assume management estimates uncollectible accounts to be \$6,000 (2 percent of sales of \$300,000). The income statement would look like this:

Revenue	\$100,000
Less: Estimated Uncollectible accounts expense	<u>6,000</u>
Net	<u>\$ 94,000</u>

However, the fact that uncollectible accounts will be \$6,000 is not always so clear. In real life.

**Step 3: Further Assumptions** Assume that for the past five years, average uncollectible accounts costs on \$300,000 of sales have ranged from \$4,000 to \$8,000, with no specific pattern being apparent. Thus, a financial manager

- Who wanted to report the highest possible current period income would be justified in using \$4,000 amount for the current year's expense estimate even though \$4,000 is the bottom of the historical range.
- Or might use \$8,000 to be conservative in a year when the economy is weak.
- Or might even be justified in using \$3,000 if there was evidence that improved customer credit investigation and improved economy during the current fiscal year would be expected to lower future losses from uncollectible accounts.
- But what if an estimate of \$1,000 simply because that figure would make it possible to achieve a desired net income target for the fiscal year? Since the \$1,000 has no reasonable support, using it would be crossing the ethical line to possible financial fraud even though GAAP does not draw the clear line ethical use of judgment and unethical use.
- Or, on the other end of the spectrum, the highly conservative estimate of \$11,000 was chosen because the manager for whatever reason (perhaps to avoid taxes or to appear unattractive to a take over) did not want to show higher income. Since the \$1,000 or \$11,000 have no reasonable support, using it would be crossing the ethical line to possible financial fraud even though GAAP does not draw the clear line ethical use of judgment and unethical use.

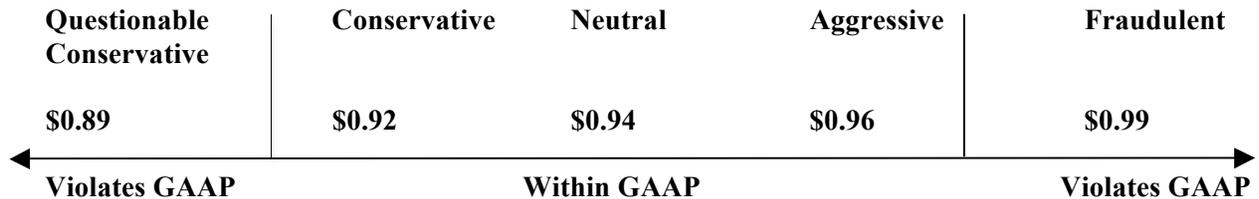
**Step 4: Illustration of the Range of Ethical and Unethical Reporting** As may be seen in Figure 1, the concept of a reporting earnings continuum from questionable conservative to conservative to neutral to aggressive to fraudulent. The question becomes as to where to draw the lines. Should they be wide latitude as in figure 1a or more narrow as in Figure 1b? The answer does make a difference. In this one example of a rather modest difference in estimate from \$1,000 to \$11,000, it make a difference of \$.10 per share or approximately 10 percent of earnings per share (EPS). Given that EPS is the most commonly quoted performance measure for companies and that when companies miss analysts' earnings estimates by \$.01, 75 percent of the time it is by more than the estimate. Finally, consider that the estimate of uncollectible accounts is only one of dozens of estimates made by management in preparing the financial statements.

We see here as our estimate changes by what may appear to be a relatively small amount in relation to total revenues the effect of bottom line is great. Assume there was absolutely no evidence, merely management optimism, that the economy would improve and that improved credit checks would be effective during the year and would lower costs associated with future uncollectible accounts to or under the historical \$4,000 low point of the historical range. Now management has no real support for estimating that uncollectible accounts losses will be \$3,000. The \$0.70 EPS figure (and highly suspect \$0.60 EPS) should now be considered overly aggressive and beyond the bound of GAAP.

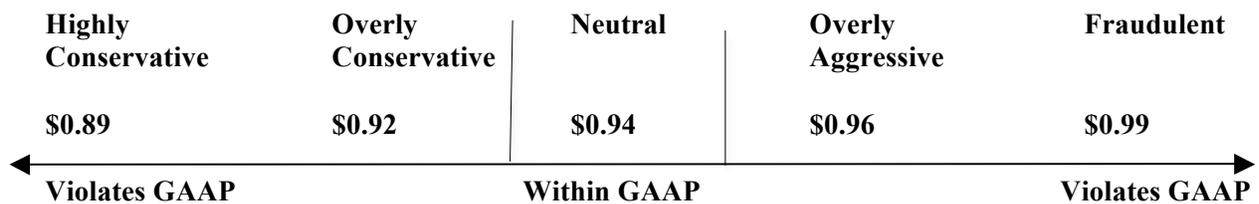
This scenario is illustrated in Figure 1b. Nevertheless, management has considerable latitude within the historical range that can produce EPS as low as \$0.20 up to \$0.60, a range of 300%.

**Figure 2: Where Do You Draw the Line?**

**2a: The Earnings Management Continuum of Ethical Financial Reporting <sup>1</sup>**



**2b: Overly Aggressive Earnings on the Continuum <sup>2</sup>**



**Step 5: Other Examples** Uncollectible accounts expense is only one of the numerous financial reporting judgments made by accountants and managers that have an impact on reported earnings. Other examples of these financial reporting judgments that could subtly shade earnings in one direction or another include:

- Depreciation computations require estimates of useful lives and salvage values. Managers could use optimistic estimates of the life and salvage value of depreciable assets, reducing depreciation expense.
- Accounts receivable must be stated at net realizable value. Managers could use optimistic estimates of collectability to overstate earnings.
- Costs must be classified as product costs or period costs. By classifying some borderline costs as product rather than period costs, managers can reduce expenses during times of inventory growth.

<sup>1</sup> Adapted from Dechow, P.M., Skinner, D.J. (2000). “Earnings management: reconciling the views of accounting academics, practitioners, and regulators,” *Accounting Horizons* 14 (2): 239.

<sup>2</sup> Ibid.

- Gains on asset dispositions may be fully recognized in the period of sale. Managers could time the sale of appreciated assets such as marketable securities and fixed assets to bolster earnings.
- Software development companies must estimate the point at which technological feasibility is reached for software products and capitalize software development costs after that point. Managers could accelerate this date to avoid immediately expensing some software development costs.
- Anticipated costs of satisfying warranty obligations must be accrued and matched to revenues. By making optimistic estimates of product warranty costs, managers could reduce current expenses.
- Ordinary repairs are expensed as incurred, while major repairs are capitalized. By treating ordinary repairs as major repairs, managers could bolster current earnings.
- Inventories must be stated at the lower of cost or market. Managers could use optimistic market values, resulting in reduced inventory write-downs.
- Long-term construction contracts require estimates of progress toward completion and costs to complete. Managers could use optimistic estimates of progress toward completion to inflate earnings.<sup>3</sup>

**Step 6: Motivations for Influencing The Estimates** If students now ask why would management be so interested in influencing the estimates accountants make, a study of 347 cases of fraudulent financial reporting over the last decade is helpful. The Committee of Sponsoring Organizations (COSO) identified numerous motivations for falsifying the financial reports, including to:

- Meet external earnings expectations of analysts and others
- Meet internally set financial targets or make the company look better
- Conceal the company's deteriorating financial condition
- Increase the stock price
- Bolster financial position for pending equity or debt financing
- Increase management compensation through achievement of bonus targets and through enhanced stock appreciation
- Cover up assets misappropriated for person gain<sup>4</sup>

---

<sup>3</sup> Jackson, S.B., and Pitman, M.K. (2001, July). "Auditors and Earnings Management," *The CPA Journal*. <<http://www.nysscpa.org/cpajournal/2001/0700/features/f073801.htm>>

## **Conclusion**

There you have a complete lecture that demonstrates conclusively why accounting is important, why accounting does not always results in the same numbers, why judgment is important in accounting, why ethics should be a component of all accounting classes, and why everyone should have a basic knowledge of accounting.

---

<sup>4</sup> Beasley, M.S., Carcello, J.V., Hermanson, D.R., & Neal, T.L. (2010, May). *Fraudulent Financial reporting 1998-2007: An Analysis of U.S. Public Companies*. Committee of Sponsoring Organizations of the Treadway Commission (COSO), 14.

## **SUSTAINABILITY ACCOUNTING AND REPORTING**

Shirley Polejewski  
Professor  
University of St. Thomas  
2115 Summit Ave MCH 316  
Saint Paul, MN 55105  
[sapolejewski@stthomas.edu](mailto:sapolejewski@stthomas.edu)  
Phone 651-962-5112  
Fax 651-962-5093

# SUSTAINABILITY ACCOUNTING AND REPORTING

## INTRODUCTION

Sustainability education or learning involves more than providing expert knowledge to inform students about sustainability issues. It is about encouraging transformative learning—the capacity to construct knowledge to challenge practice, to critique and debate sustainability issues.

The basis objective of teaching “Sustainability” in the first year accounting course is to introduce basic concepts and motivation for sustaining management accounting and reporting. Students would become acquainted with major frameworks and would be able to discuss relationships of sustainability to financial accounting and prepare students to carry out these concepts into management and cost accounting courses. By incorporating sustainability into the beginning financial accounting course helps students learn to think critically by giving them a range of questions to consider at the same time as the traditional problems and questions of the accounting curriculum. Several case studies could be incorporated into the financial accounting class that deal with activities, methods and systems to record, analyze and report environmental and economic uses that constitute the dimensions of sustainability.

### **Background**

Sustainability accounting” has become a generic term! A review of the literature gives a blurred picture of what is covered by this term. It appears that few definitions of sustainability accounting exists evening papers with the term in their titles. It also seems that sustainability accounting has not been adequately conceptualized and at best a vague description can be found of what is expected from sustainability accounting. In many cases it appears that sustainability accounting is just used as another term for environmental accounting or environmental reporting) see, for example, Lambertson’s (2005.p.8) brief history of sustainability accounting).

This then raises a number of questions such as:

1. What fundamental lines of thought are contained in the literature on sustainability accounting?
2. What interpretations of sustainability accounting can be distinguished in the light of information management?

What this paper will focus on is the role of sustainability accounting as an approach to help support management improve sustainability and responsibility.

With the growing body of literature on sustainability accounting, one area of thought that becomes evident: Does accounting contribute to sustainability development or does accounting blur the view and constrains management from taking the necessary steps toward sustainability?

Sustainability accounting, as a concept, has emerged from developments in accounting over a period of years. Accounting has long been presented in a conventional way for

management and external parties. Financial accounting provides the foundation for information gathered within the organization and prepared for presentation to external stakeholders through disclosure in external reports. The second type of accounting, cost accounting, provides management about inventory asset values for inclusion in the annual reports as well as focusing on information for management decision-making, planning and control.

Sustainability accounting could then be developed in a different way: a system of accounting designed to promote a strategy of sustainability and as an extension or modification to financial, cost or management accounting.

Changes to conventional accounting have already taken the form of environmental accounting as the foundation for external environmental reporting and has been expressed in physical and qualitative terms, or non-financial terms. Triple bottom line accounting introduces separate economic, social and environmental foci for organizations (Elkington, 1998, 1999; Gray & Milne, 2002) and sustainability accounting with a main focus on the integration of social, environmental and economic facets of organizational activities (Lamberton, 2005; Schaltegger & Burritt, 2006; Thomson, 2007).

At the present time sustainability accounting represents the zenith of extended accounting and reporting. There is an emphasis on accounting for ecosystems and accounting of communities, consideration of eco-justice as well as a focus on issues of effectiveness and efficiency (Gray & Milne, 2002). Corporate sustainability accounting and reporting is claimed by Gray & Milne (2002) to present a challenge because of the need to address the entity concept and focus on eco-systems and their carrying capacities and cumulative effects. They suggest because it is not possible to define what a sustainable organization would look like, the necessary accounting as the basis for sustainability reporting also must be unknown.

Sustainability accounting is the term used to describe new information management and accounting methods that attempt to create and provide high quality, relevant information to support corporations in relation to their sustainable development.

Sustainability accounting describes a subject of accounting that deals with activities, methods and systems to record, analyze and report environmentally and social induced financial impacts; ecological and social impacts of a defined economic system and the interactions and linkage between social, environmental and economic issues that constitute the three dimension of sustainability.

### **Reasons for Sustainability Accounting**

The following six reasons are why managers want to establish an accounting system that provides information for assessing corporate actions on sustainability issues:

1. Greenwashing: To signal concerns, whereby accounting serves as a tool to support cost efficient communicative activities contra sustainability (Gray, 2006; Lindblom, 1994).
2. Industry pressure

3. Legislative pressure, stakeholder pressure and ensuring the “license to operate. Dialogues can become necessary for the corporation continuous activities.
4. Self-Regulation: Disclosure of social and environmental information in a voluntary way in order to impede further mandatory government regulations and to maintain social acceptance and reputation or to prevent competing companies from “free-riding”.
5. Corporation responsibility and ethical reasons: Ethical motivation and legitimating for accounting to address sustainability issues is of uncontested importance as the focus of accounting information will direct and guide corporate decision makers.
6. Managing the business case for sustainability: to identify and realize the economic (e.g., cost reduction or sales revenue increasing) potential of voluntary social and environmental activities. Corporate management will be motivated by this reason if it feels that the company may have a business case for pursuing sustainability.

Another important reason that company management may be interested in developing or introducing sustainability accounting is to increase its profits under the given regulatory and market conditions. Trade-offs between different risks in the short-long term are important to long run corporate success. An accounting system that advises and informs decision makers about relevant risks is to be preferred to one, which does not.

### **Different Information Management Interpretations of Sustainability Accounting**

1. Sustainability accounting as a buzzword: In this interpretation of sustainability accounting can be seen as an empty buzzword, which blurs the view of corporate sustainability and sustainable development from both a philosophical view and also from a manager’s perspective.
2. Sustainability accounting as a broad umbrella term: Sustainability accounting could just be a broad umbrella term bringing together existing accounting and reporting approaches dealing with environmental, social, eco-efficiency issues. One needs to provide the term sustainability accounting with further meaning by linking it to the need to treat corporation sustainability as an outcome, track progress towards this outcome and feedback information that can be used to ensure the corporation in on course.
3. Sustainability accounting as an overarching measurement tool: Sustainability does not just cover three times as many issues as the environmental dimension: it also addresses issues such as participation, future orientation, diversity, cultural issues and the linkage between them all. Corporate sustainability requires the specific consideration of spatial, regional and time aspect, which can differ substantially. Corporate sustainability management covers a wide range of issues, which are very different in kind.
4. Sustainability accounting as a pragmatic goal set of tools: Developing sustainability accounting from a goal or target driven pragmatic perspective require that addressees and key stakeholders are identified and that the core topics and expected contributions of sustainability are identified. Sustainability accounting cannot be separated from sustainability reporting and the strategic and operation management of sustainability issues. The role of the accounting and accountants is seen to support the process of engaging management in the development and improvement of corporate sustainability, to review the results, processes and inputs, to facilitate communication of review of report and support and

challenge management in their choice of sustainability measure. Sustainability accounting interpreted as a pragmatic goal oriented approach to development does keep control of the accounting system in the hands of management.

5. Approaches of the pragmatic goal driven development interpretation of sustainability accounting of which there are three basis approaches of the goal driven sustainability accounting and each can be distinguished to develop a pragmatic sustainability accounting system.
  - 1) Top-down approach starts with the broadest definition of sustainable development and corporate sustainability and from this the measurement approach is derived. This approach holds responsibility and accountability relationships must be clearly defined; than an appropriate strategic analysis of the company and its interface with sustainability and sustainable development issues must be mapped.
  - 2) Stakeholders driven approach to sustainability accounting means that the question of what sustainability performance means for a specific company and industry and what indicators are considered to mirror this performance best, and how it should be measured and communicated is determined through stakeholders engagement process which starts with one or several engagement dialogues.
  - 3) Twin track approach; a combination of top-down and stakeholder approach. The twin track approach to sustainability accounting information encourages management to keep a broad watch on issues that could be of concern and the associated relevant indications, while working toward specific corporation goals within a setting that recognizes the importance of adaptation to changing conditions as they arise.
6. Management Relevance: The term sustainability accounting and the relationship between sustainability and accounting began to be addressed in the 1990's. Considerable academic discussion seems to have become an on going philosophical debate and this has resulted in different interpretations and intended uses of sustainability accounting. (See Table 1). The development of a pragmatic set of tools for corporate practice is yet to be progress beyond an early stage of development and is hampered by insufficiently refined and immature proposals.

### **How to Report a Company's Sustainability Activities**

In business sustainability means managing human and natural capital with the same vigor we apply to management of financial capital. It means widening the scope of our awareness so we can understand fully the "true cost of every choice we make" according to Ray Anderson, founder of Interface, Inc.

Corporation and other organizations are reporting their" sustainability" activities—their responsibility to keep the environment clean, to treat people humanely, and to achieve economic goals. Sustainability reporting has become a vital part of the information that external and internal decision maker's use. "For many corporations, sustainability is becoming not just a "nice thing to do" but a core requirement, which enables corporations to increase their value and sustain profitability in the long term" according to Willem Brocker of Pricewaterhouse Coopers. ++ (Discussion with PwC Managing Partner: Willem Brocker", Amsterdam, the Netherlands.2004)

Sustainability reporting includes economic, environmental, and social indicators that help monitor progress toward sustainability practices. Eighty-one percent of executives at large US-based businesses report that sustainability practices will be essential or very important to their company's strategic mission ++(Pricewaterhouse Coopers, "Corporate Governance and Sustainability survey, "New York, N.Y. 2002)

This maybe because the way a company manages its social and environmental responsibilities, also influences its financial success ++ (KPMG International, "KPMG environmental Consulting, Amsterdam, the Netherlands, 1999.)

The numbers of investment management companies that are evaluating companies' sustainability practices illustrates that for investment purposes, some external users are no longer satisfied with historical financial reports as the predominant source of a company's reported information. Consumers, government, employees and local communities as well as investors are demanding increase scrutiny of corporate behavior. Corporate misbehavior is very costly and can harm workers, cultures, and the environment as well as damage reputation and profits.

Some examples of this, in 1996, Nike suffered a consumer backlash, a boycott and long-term damage because it employed children to manufacture its products in Pakistan. Poor working conditions and pollution in Nikes factories in Vietnam also plagues the company. Wal-Mart's stakeholders' have demanded more transparency because of the company's employee compensation practice. Sustainability report could provide some of this transparency.

Another indication of the emerging relevance of sustainability reporting is the direct involvement of public accounting firms. KPMK as well as PWC offers a variety of services related to sustainable development. The firms see sustainable reporting as a fast growing market and an opportunity to expand their businesses.

Unlike generally accepted accounting principles (GAAP), there are no generally accepted standards of sustainability reporting. In most cases sustainability reports cover a company's economic, environmental and social activities but not all companies use the same indicators to gauge their activities.

The Global Reporting Initiative, an independent institution that started in 1997 and became independent in 2002 offers guidelines to help reports become more standardized. (Global Reporting Initiative, Sustainability Reporting Guidelines, Boston, Mass. 2002). To develop reporting guidelines, the Global Reporting Initiative works with representative from business, investment, accounting, human rights, labor organizations from around the world. There are over 665 organizations that report sustainable activities in accordance with these guidelines.

Sustainability reporting is a growing trend that promises to become a competitive edge for many companies. It is proving to be a valuable tool internally and externally, giving management a means of analysis and stakeholders more transparency.

Thus future research needs to address the real challenge to corporate management—to develop pragmatic tools for sustainability accounting for a well-described set of business situations.

## REFERENCES

Esty, Daniel C. and Winston, Andrew S. "Green to Gold" Yale University Press, New Haven & London copyright 2006.

Uhl, Christopher, "Developing Ecological Consciousness". Rowan & Littlefield Publishers, Inc. NY 2004

**THE CONCEPTUAL FRAMEWORK FOR FINANCIAL REPORTING AND  
A PEDAGOGICAL APPROACH THERETO**

**Stephen A. Coetzee\***  
**Department of Accounting**  
**University of Pretoria**  
**South Africa**  
**stephen.coetzee@up.ac.za**

**Astrid Schmulian**  
**Department of Accounting**  
**University of Pretoria**  
**South Africa**  
**astrid.schmulian@up.ac.za**

**\* Corresponding author**

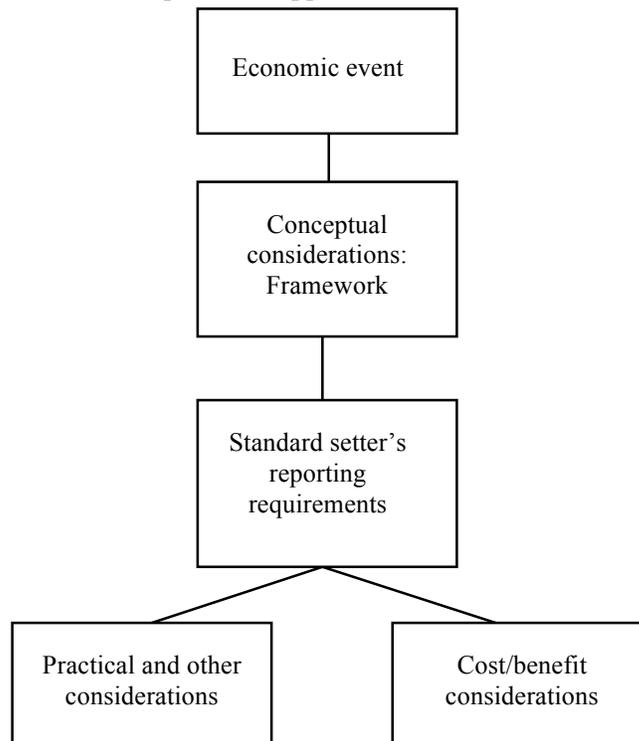
## INTRODUCTION

*I don't think you should teach the standards. I think you should teach the conceptual framework and then discuss why certain standards have not followed the framework* (Sir David Tweedie, Chairman IASB, 2011).

In line with these comments by the Chairman of the International Accounting Standards Board (IASB), principle-based IFRS education (figure 1), has been proposed by Barth (2008) and Coetzee and Schmulian (2011). The foundation of this pedagogical approach is that students ought to be taught the concepts as contained in the *Framework for the Preparation and Presentation of Financial Statements (1989)* (now replaced with the *Conceptual Framework for Financial Reporting (2010)*<sup>1</sup>). A Conceptual Framework is the foundation on which Financial Reporting Standards are based. When students understand the foundational concepts contained within a Conceptual Framework, they will be able to apply judgment in accounting for economic events (Barth 2008). Further, given that a Conceptual Framework is not subject to as frequent revision as the Financial Reporting Standards which it underlies, the students are provided with a more enduring knowledge of financial reporting. This article considers the content of the *Conceptual Framework for Financial Reporting*, prior to proposing a pedagogical approach to the teaching thereof.

---

**FIGURE 1**  
**Principle-based approach to IFRS education**



---

(Source: Coetzee & Schmulian, 2011)

---

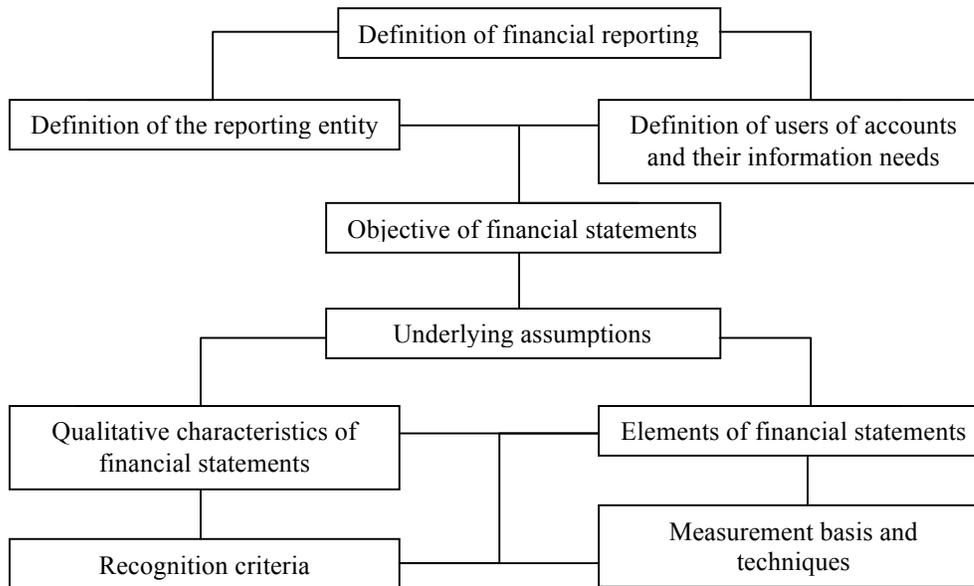
<sup>1</sup> This *Conceptual Framework for Financial Reporting* is part of a joint project between the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB).

## THE CONCEPTUAL FRAMEWORK FOR FINANCIAL REPORTING

The *Conceptual Framework for Financial Reporting* documents the agreed upon concepts which underlie International Financial Reporting Standards (IFRS) and allows the standard setter, the IASB, to achieve consistency across financial reporting standards and over time, despite changes in the board members of the IASB. Further, the *Conceptual Framework for Financial Reporting* may be used, as required by IAS 8, *Accounting Policies, Changes in Estimates and Errors*, by preparers of financial statements to develop accounting policies for an economic event for which no financial reporting standard exists.

Conceptual Frameworks, including the *Conceptual Framework for Financial Reporting*, generally exhibit a generic structure. This structure is illustrated in Figure 2 and forms the outline for the discussion below.

**FIGURE 2**  
**Generic structure of a Conceptual Framework**



(Source: Deegan, 2010)

### **Underlying assumptions**

The underlying assumptions of the *Conceptual Framework for Financial Reporting* are the objective of financial reporting<sup>2</sup> and the definitions of financial reporting, the reporting entity as well as the users and their information needs. Should a person reject the validity of these underlying assumptions then all the remaining concepts contained in the *Conceptual Framework for Financial Reporting* would also be rejected, as these all flow directly from the underlying assumptions.

<sup>2</sup> Financial reporting is a concept wider than financial statements and represents an interesting change in objective since that of the *Framework for the Preparation and Presentation of Financial Statements*.

The objective of financial reporting “*is to provide financial information about the reporting entity<sup>3</sup> that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity*” (IASB 2010). The user group of ‘potential investors, lenders and other creditors’ refer to users who may provide resources to a reporting entity but are not in the position to demand information from the entity. In general, this user group requires information to support decisions of whether to buy, sell or hold their equity and/or debt instruments in the reporting entity. In addition, information is required by these users to ensure that efficient and effective use has been made of the resources provided to the reporting entity<sup>4</sup>.

### **Qualitative Characteristics**

The **fundamental** qualitative characteristics of financial reporting, flowing from the objective, are relevance and faithful representation. Relevance implies the ability of the reported information to influence economic decisions through providing information to the users, relating to the amount and timing of cash flows for *predictive* and *confirmatory* purposes. A logical component of relevance is *materiality* which states that information is relevant and able to influence economic decisions should it be of sufficient importance in terms of value and/or nature. Faithful representation requires information to be presented that effectively ‘calls a spade a spade’. This concept requires that information be reported on: *completely* in words and amounts; free of any bias, whether conservative or otherwise (*neutrality*), and free from error. It is proposed that relevance enjoys the conceptual primacy of these two fundamental characteristics in that faithful representation of an event, no matter how well achieved, cannot make an event relevant to the decision making of the targeted user group.

The usefulness of the information presented in financial statements can be further improved by a number of **enhancing** qualitative characteristics namely: *comparability*, *verifiability*, *timeliness* and *understandability*. Comparability implies that events which are alike are reported on in a similar manner, whilst events that differ are reported differently. Comparability should not be confused with uniformity (i.e. making all events appear the same). Verifiability requires that differing people with the same set of facts should draw similar conclusions, whilst understandability requires that information is to be presented in such a manner that a user with a reasonable level of sophistication will be able to make sense thereof. Finally, timeliness implies that information is made available at an appropriate time, relevant to the decision for which it is required.

The attainment of these characteristics in financial reporting is subject to necessary **pervasive constraints**. The benefit gained from achieving these characteristics should not exceed the cost necessary to realize that benefit.

---

<sup>3</sup> The concept of reporting entity has not been defined by the IASB in the *Conceptual Framework for Financial Reporting* yet.

<sup>4</sup> The efficient and effective use of resources is commonly referred to as the stewardship concept.

## **Recognition and measurement of the elements of financial statements**

Rooted in the concept of accrual accounting, rather than matching, the recognition of the elements of financial statements (asset, liability, equity, income and expense) is dependent on the ability of the element to be reliably measured and the probability that the element will lead to an in- or outflow of economic resources. Assuming that an element may be recognized in terms of the *Conceptual Framework for Financial Reporting*, the measurement thereof is problematic. The *Conceptual Framework for Financial Reporting* is particularly weak in providing a conceptual basis for the measurement of the elements of financial statements. Currently the *Conceptual Framework for Financial Reporting* provides little more than a list of measurement basis, resulting in the inconsistent measurements of the elements across the various Financial Reporting Standards.

### **TEACHING THE *CONCEPTUAL FRAMEWORK FOR FINANCIAL REPORTING***

Given the importance of the *Conceptual Framework for Financial Reporting* to the standard setter and other users, it appears reasonable that similar importance should be attached to the teaching thereof. The question that arises is how the concepts contained therein should be taught. This article seeks to provide an illustrative case of an approach adopted in the teaching of the *Conceptual Framework for Financial Reporting*.

#### **Context**

The teaching approach outlined in this paper was adopted in an introductory course to IFRS. Students enrolled for this course have completed a ‘bookkeeping’ course but have limited, if any, exposure to Financial Reporting Standards. The introductory course to IFRS is presented to groups of approximately 200 students each. These students all intend qualifying as professional accountants. The course adopts a mixed methods pedagogical approach in that both principle-based and rule-based IFRS education occur using student-centered and teacher-centered methods (Coetzee and Schmulian 2011).

#### **Teaching method proposed**

*What is accounting?*

To introduce the topic, the students are required to ‘go back to basics’ and define what they understand accounting to be. The lecturer leads the discussion towards the following generally accepted definition of accounting:

*“Accounting is the system of **recording** and summarizing **business and financial transactions**, and analyzing, verifying, and **reporting** the results.”*

*What is financial reporting?*

The discussion is then focused on the reporting component of accounting and the students’ definition thereof. During this discussion it becomes evident that the students have

varying views on financial reporting, what it involves, who is responsible for the reporting, to whom they are responsible and how they provide financial information. This discussion serves as the starting point to illustrate the role of a standard setter in formalizing and regulating financial reporting.

The students are then introduced to the IASB. A short video interview on CATV<sup>5</sup> (a broadcast venture of the Institute of Chartered Accountants of Scotland) with Sir David Tweedie, chairperson of the IASB, is shown to the students. This video clip provides *inter alia* background on the development of the IASB, the convergence between the FASB and IASB and the role of IFRS in the economic crisis. Of particular interest in the interview is the advice that is provided to current accounting students on their future careers and what it means to be a professional accountant.

### *Developing a Framework for Financial Reporting*

Once information about the IASB and its role has been considered, the students are encouraged to discuss which of the accounting concepts, with which they are already familiar<sup>6</sup>, are important and would they encourage the IASB to consider when developing an IFRS. This discussion serves as a basis for informing the students of the due process in standard setting, followed by the IASB. To develop the discussion it is useful to ask leading questions such as what criteria would be important to ensuring financial information is useful and of high quality. Some element of role-play, whereby the students play the role of various stakeholders, may add value, although for the discussion used in this course the role was limited to that of investor. As aid to guiding the discussion the lecturer may wish to keep a generic Framework for financial reporting in mind (see Figure 2 above). At the conclusion of this discussion the students are informed that they have in essence partially followed the due process in developing their own 'Framework' of concepts and inherently their own view of the world. The students are then referred to an IASB document<sup>7</sup> entitled "*How we Consult*" which details the due process followed by the IASB to develop an IFRS (and the *Conceptual Framework for Financial Reporting*).

### *Content of the Conceptual Framework for Financial Reporting*

The students are assigned the task of preparing a 'mind map' of the IASB's Frameworks: both the 1989 *Framework for the Preparation and Presentation of Financial Statements* and the 2010 *Conceptual Framework for Financial Reporting*. The students are instructed to consider similarities and differences between the two Frameworks and possible reasons therefore (reference to the Basis of Conclusion supporting the *Conceptual Framework for Financial Reporting* is particularly useful in this regard). The objective of this assignment is to encourage the students to engage with the contents of these Frameworks prior to the lecture thereon.

---

<sup>5</sup> Available at <https://www.icas.org.uk/ icascatv/cat16/issue19>.

<sup>6</sup> The students are exposed to many concepts at secondary school level and the undergraduate bookkeeping course. However, they may not have a complete 'toolbox' of concepts at their disposal yet. The exercise may also serve as a valuable indicator of the students' existing understanding and ability to distinguish between concepts, principles and rules.

<sup>7</sup> Available at <http://www.ifrs.org/NR/rdonlyres/A9708702-32FA-49A9-B469-FC6BAF6136E9/0/HOWWECONSULTFINALvb.PDF>.

The actual content of the *Conceptual Framework for Financial Reporting* is facilitated through using the appropriate sections of an IASB webcast<sup>8</sup> and supporting slides entitled “Framework-based teaching of principle-based standards”. In this webcast Professor Mary Barth, academic advisor to the IASB, discusses in detail the *Conceptual Framework for Financial Reporting* and common misunderstandings related thereto. To consolidate the students’ knowledge of the *Conceptual Framework for Financial Reporting* a short presentation providing an overview thereof was recorded by the lecturers and posted on the *IFRS Rookies* channel on YouTube and Facebook.

Given that the objective of the course remains preparing the students for a professional qualifying examination (which currently consists exclusively of various single-answer, fictitious scenarios) the topic is concluded by exposing the students to typical exam-type questions. In an ideal environment this time may be better spent in exercising the students’ judgment, based on the concepts, in various practical case studies.

### CONCLUDING REMARKS

The lectures on the *Framework for the Preparation and Presentation of Financial Statements (1989)* (now replaced with the *Conceptual Framework for Financial Reporting (2010)*) have traditionally been based on the lecturer standing in front of the class imparting knowledge of the concepts to the students, of whom little more is expected than to passively absorb the knowledge. Once these lectures concluded, the *Conceptual Framework for Financial Reporting* was considered dealt with and to the relief of both the students and lecturers one could now begin with the more ‘important’ and ‘interesting’ IFRS rules.

Such an approach is however contrary to current developments in IFRS education (Barth, 2008 and Coetzee and Schmulian, 2011). Further the authors are not prepared to accept similar emotions to those of Marcel Achard (French Playwright, 1899-1974) who stated:

“When I give a lecture, I accept that people look at their watches, but what I do not tolerate is when they look at it and raise it to their ear to find out if it stopped”.

Accordingly a revised approach to the pedagogy employed when teaching the *Conceptual Framework for Financial Reporting* is advocated. This approach incorporates a diversity of activities including webcasts and videos. Emphasis is placed on the students to take responsibility for their learning through requiring them to work through the relevant Frameworks prior to the lectures thereof. Furthermore, the lectures have been expanded to not only focus on the content of the Frameworks but to place significant emphasis on its purpose within the financial reporting environment. While it is hoped that this revised approach will create a more conducive learning environment it should not be forgotten that the students are only beginning to understand these concepts and that the development of a thorough understanding of these concepts takes place through the integration of the concepts with the principles of financial reporting for each economic event subsequently considered (Coetzee and Schmulian, 2011).

---

<sup>8</sup> Available at <http://www.ifrs.org/News/Announcements+and+Speeches/webcast+framework+based+teaching.htm>.

## REFERENCES

Barth, M.E. 2008. Global Financial Reporting: Implications for U.S. Academics. *Accounting Review* 83 (5): 1159-1179.

Coetzee, S. and A. Schmulian, 2011. A mixed methods pedagogical approach to an introductory course to IFRS. *Accounting Instructors Report*. Winter.

Deegan, C. 2009. *Financial Accounting Theory*. McGraw-Hill Australia

International Accounting Standards Board (IASB), 2010. *The Conceptual Framework for Financial Reporting*. IFRS Foundation, London, UK.

**REDESIGN OF AN ONLINE MANAGERIAL ACCOUNTING COURSE:  
LESSONS LEARNED**

**Corresponding author: Martha S. Doran, PhD, CPA(az)**

[Doran1@mail.sdsu.edu](mailto:Doran1@mail.sdsu.edu)

San Diego State University

**Gary W. Doran**

[garywdoran@cox.net](mailto:garywdoran@cox.net)

The authors want to express their appreciation and thanks to Jason Lemon, Associate Dean, Roxanne Morrison, Director, Chris Worthen, Course Developer and Victoria Bartels, Program Coordinator, at the University of California, Berkeley Extension, for their help with this article.

# **REDESIGN OF AN ONLINE MANAGERIAL ACCOUNTING COURSE: LESSONS LEARNED**

## **INTRODUCTION**

The growth in online education has exploded in recent years. Every year since 2002, the rate of college students taking online courses has increased at a compound rate of 13% annually, while traditional higher education enrollments have increased only 2% annually during this same time. Over 5.6 million students took at least one online course in the fall of 2009 (Allen and Seaman 2010). When these courses were first made available, most of the suppliers were for-profit universities. Faculty in traditional institutions often viewed online education as a product for purchase, where students could buy course credits with less rigorous demands in the scope of work required and in assessment. The biggest change in recent years is the number of traditional universities that have joined the ranks of online education. Faculty senates continue to vote to set criteria for online courses so that the standards of the institution offering the courses remain high and the online offerings do not somehow tarnish the reputation of the university. Yet administrators, learning scientists, instructional designers, and students from all over the globe continue to seek online course offerings in increasing numbers, for a variety of reasons.

### **Online Learning and UC Berkeley Extension**

Online course development requires a large investment in technologies, technologists, technical support and instructional designers, not to mention the faculty time and commitment. Due to shrinking budgets, these kinds of resources have not been readily available at many traditional institutions. For some, grants have made a large difference in creating the online learning platforms for the 21<sup>st</sup> century. During the mid-1990s when online education began to grow, the Online Department at UC Berkeley Extension received the first of two grants from the Sloan Foundation to develop online courses. These grants allowed for larger scale course development and delivery of online learning opportunities and strategic partnerships, such as delivering the courses through America Online (AOL). UC Berkeley Extension currently offers over 140 online courses, including 11 that automatically transfer for UC Berkeley matriculated students to their undergraduate transcripts. Additionally, each year thousands of students successfully complete and transfer to their home institutions about 50 lower- and upper- division courses that satisfy degree requirements. As many students and working professionals look to re-tread their existing credentials, online course offerings have grown in popularity as a way to obtain Professional Certifications. UC Berkeley Extension offers 83 Certificate Programs, including a Certificate in Accounting. While not a replacement for traditional classroom education, online education answers an unmet demand for a growing number of students.

### **Pros and Cons for Online Courses**

One of the key benefits of most online courses is their ease of enrollment. In addition, self-paced courses give students the ability to begin the course at a time of their choosing, with a course completion date, referred to as end date, usually six months after enrollment. Also, most of the Certificate programs do not require lengthy applications, test scores, or prior transcripts, although this is often true for many traditional classroom certificates as well. Geography is not a

limiting factor as students can take courses regardless of their proximity to the institution. Some students also find interaction and the ability to ask questions less intimidating when their communication is mediated via computer interfaces rather than face-to-face. The coursework can be completed at the student's pace, allowing for late night access, weekend concentration of work, and use of vacation time to devote large blocks of time to the coursework. The State Department of Education conducted a meta-analysis of research looking at the most effective conditions and practices for on line learning. One finding was that time spent on task, whether online or face-to-face, is key to successful student learning. Online instruction can be "more conducive to the expansion of learning time than is face-to-face."(Means et al. 2010)

Interestingly, some of the same pros or benefits can also turn into problems for many students in terms of time management. In the online courses we have taught, the completion rate is lower than in-person coursework. Most online courses require the student to submit and/or post homework, discussion responses and quizzes, etc. For students who do not submit any work, the interaction is limited at best. Perhaps the biggest concern in online education continues to be the lack of assurance as to who is performing the coursework. While this is also an issue in the traditional classroom, many faculty believe it is easier to control and give assurance as to individual student performance in the face-to-face classroom than in most online settings. The caveat for such assurance is that students perform the work *during* sessions with the instructor. However this assurance may be more illusory than imagined given the size of most campus courses and the dedication of most in-class time to lecture. Once work is performed outside the traditional classroom, assurance for such work being done by the student who submits the assignment is as problematic for the face-to-face classroom as for the online setting. Many large lecture classes use the exact same mechanisms that online courses do to verify student identity for proctored exams – they check ID cards before handing out the final.

The remainder of this paper will present the course redesign elements introduced to a managerial accounting course, offered at UC Berkeley Extension. After assuming teaching responsibilities for an existing course, we observed a variety of challenges to the course structure and the learning activities. The next section will give an overview of some basic student characteristics, the existing course structure and the learning management system at the university. Then we will describe some of the key challenges encountered, followed by changes made to overcome the noted challenges. We will conclude with some ideas for additional instructional design as well as pose some questions that could be studied in future research projects.

## **COURSE STRUCTURE AND REQUIREMENTS**

### **Student Characteristics**

In a recent survey performed by UC Berkeley Extension's Marketing Department, 180<sup>1</sup> online students provided some demographics that give an interesting profile of this learning

---

<sup>1</sup> In November 2010 UCB Extension's marketing department sent out a survey to 1379 online students with 180 (13%) responding to the survey.

group. Over 82 percent of the respondents have completed either a Bachelors (50.6%) or a Masters (31.7%) degree. Sixty percent are between the ages of 26-35 (36.1%) and 36-45 (23.9%). Over 70 percent are women. Fifty three percent are full-time employed and 55 percent are taking the courses for either career advancement (36%) or an outright career change (19%).

Students enrolled in our online accounting course came from various countries around the globe and various states within the US, as well as from the UC Berkeley campus. Most of the students had experience with at least one other online course (usually introductory financial accounting), while some students had completed many online courses. This information was gathered from the first course assignment which asked students to introduce themselves and answer various questions such as their online learning experiences, their goals for this course, and their work experiences, etc.

### **Existing Course Structure**

The course structure required students to submit specific homework problems from chapters in the textbook, using a prescribed format on an Excel worksheet. In addition, the students also answered quiz questions on the same worksheet, which they accessed on the website. This one worksheet contained homework and quiz responses, which were scored and returned to the students with feedback and comments. The format was in place when we assumed instructional responsibilities for this course, so we continued with the same course protocols and requirements to relieve any anxiety the students might have felt with the change in instructor. Discussion assignments were required for each module, although many of the assignments were not done with any attention to detail and the students had not received much individual feedback on them, so interaction was limited between the students and the instructor. In effect, the existing structure had a “correspondence course” feel to it.

### **Learning Management System**

What sets UC Berkeley Extension apart from many online educational institutions is its gold standard in both course support and assurance of student learning. The UC Berkeley Extension developers and administrators encouraged our rethinking of the course and provided strong and timely support in terms of online courseware, course edits, and handling student questions and needs about administrative issues. To provide learning assurance, students must take a proctored final examination and must pass the examination with a score of 70% or better to pass the course, regardless of the scores earned in all other assignments. The proctor requirements are also fair to the student and include a range of alternatives. The easiest option is for a student to pay a fee and use a UC Berkeley Extension approved site, which includes many other universities’ testing centers.

## **PROBLEMS ENCOUNTERED**

During the first few months of the course, we observed a variety of issues or challenges. From our observations and email exchanges with the students, we identified four key concerns:

- We had doubts about students doing their own homework.
- We felt their time management skills to be underdeveloped.

- We were concerned there was limited interaction with the students.
- We did not think students were adequately preparing for the final exam.

The following paragraphs give brief descriptions of these four recurring problems.

### **Authenticity of Student Homework**

After grading the homework assignments for several weeks, it became clear students might not be doing their own work. The quality of the homework from students who were beginners in management accounting was in pristine condition time and time again. Additionally, these perfect homework scores didn't align with the quiz grades the students were receiving for the same material. The quizzes were instructor-prepared using test bank questions, posted to the online course site, whereas the homework was comprised of selected problems from the textbook. On more than one occasion, the wording used in student responses to homework problems was word for word from the solutions manual. Some of the solution responses even used archaic accounting terms, which these new students used as well. Once our suspicions were raised, we tried a quick Google search and discovered textbook solutions manuals for sale from numerous sources. We stopped looking after accessing the first thirteen websites. The availability of obtaining the answers to the textbook questions was unlimited. On several of the websites, the sellers advertised and promoted the solutions manuals as study aids.

### **Time Management Skills**

Students often added an online managerial accounting class into an already busy lifestyle. We observed that many of them had not yet developed solid time management skills to help in prioritizing their hectic schedules. One group of students waited too long to begin the coursework, perhaps thinking they would have more time "in a couple weeks". Another group started the coursework on a timely basis but stopped submitting assignments early on when some other priority needed their attention. When these groups realized that the end date for the course was eminent, the students would try to cram a six-month course into a few weeks. Few of them were successful.

### **Lack of Interaction with Students**

We had problems engaging with the students for two key reasons. As noted earlier, many students submitted perfect homework assignments. From a teaching standpoint, there was little opportunity for feedback or interaction when nothing was wrong with the homework assignments they submitted. Additionally, in a large online class where each student enters and leaves the class at different times, the easiest way to monitor student progress is by engaging the student in feedback from the various assignments. If nothing is submitted, then there is limited opportunity for interaction with the student. The existing structure made it too easy for an online student to disappear from the class by not doing any of the work.

### **Students Not Prepared for the Exam**

The final exam was a straightforward test with easy to moderately difficult questions asking basic managerial accounting concepts and calculations. Accounting is a subject best

learned by practice and repetition. We believed some students were not spending enough time on task due to their use of solutions manuals. Since they had the solutions, it appeared they were not wrestling with the problems in order to figure out the answers. This was unfortunate, because they were getting the answers without fully knowing how they did it. Additionally, because the students were getting good scores on their homework assignments, they had a false sense of how well they knew the material and may have believed that they knew the concepts better than they actually did. Over one third of the students got a final exam score that was at least ten percent lower than their homework average. The combination of students not fully understanding the material and yet believing that they did know the materials may have added to the lower student exam scores.

## **CHANGES MADE TO THE COURSE**

During the early months of working with the initial course, we were also developing a new course offering. Some of the changes we describe in this section were implemented at the beginning of the new course and some continue to evolve over time, such as counseling and better preparation for the exam (See Table 1 for Course Sections).

### **Putting Homework Assignments Online**

One of the ways to combat the use of purchased solutions manuals was to put the homework assignments online using the publisher's homework manager system. We selected algorithmic rather than static problems which meant each student received the same problem format but with different numbers given in each problem. Purchased solutions manuals could no longer provide the perfect answer. We chose an option through the publisher's website to allow students two chances at answering the questions. The students were credited with the higher of the two scores. Setting the homework assignment criteria to allow the better of the two scores was driven by trying to get the students to spend more time on task. Additionally, the weight given to the homework assignments was reduced to lower the influence the homework score had on the overall grade. Even though the amount of influence was reduced, the design was for students to spend more time on task in working with the online homework assignments. To date, many of the students who did not earn 100% on their first homework attempt have reworked the problems in order to earn a higher score.

### **Making an Effort to Interact Early and Often in the Course**

One of the downsides of the online class environment is the lack of interaction between teacher and student. This lack of interaction can have the effect of distancing the student from the course. In order to engage the students and overcome some of the sense of distance, we asked each student to begin the course by writing an introduction. We used those introductions to build a relationship with each student early in the course. Many are trying to make a career change and we write to them about the opportunities available in the accounting field. Others are trying to achieve an accounting certificate. (Over the last two years, of the 340 enrollments in the managerial accounting course, 97 have also been enrolled in the Accounting Certificate

Program.<sup>2</sup>) We responded to the students about the opportunities and challenges in pursuing an accounting certificate. We learned that it is important to connect with the student at the beginning of the course, because this is the best time to get them interested, active and engaged in the course on a regular basis in their busy lives.

Our goal is to engage students early in the course so they will complete the course assignments on a timely basis. We have found that one strong indicator of students' completion rate is whether or not they complete the first introduction assignment. Over 85% of the students who did not participate in the introduction assignment did not complete the course, (see Table 1, Course 3). Of the students who did participate, initially 59% completed the course (see Table 1, Course 2). As we have increased the early feedback on the introduction assignment we anticipate the course completion rate will also increase. (See Table 1, Course 3). Once students are regularly completing the assignments, then our responsibility changes to the role of instructor in the technical materials, along with dialogue on ethical issues. We continue the role of mentor and motivator as students approach the end of the course.

### **Counseling Students on Reasonable Time Goals**

Too often, online students are not reasonable with the time requirements in learning accounting. As noted earlier, they are not realistic about the time constraints placed on them by the number of other responsibilities they may have in their lives while taking the course. One of the reasons for requiring a personal introduction is to have a written record of students' current status. With that written record, we can be aware of the students' other interests and time commitments. Based on when and how often the students submit assignments, we counsel them on realistic estimates in the amount of time and effort needed to complete the course. We share with them that our advice is based on numerous observations of what it takes to successfully complete the coursework and study for the exam.

### **Trying to Better Prepare Students for the Final Exam**

We observed that students were not fully prepared to take the final exam. With some of them possessing the solutions manual, this may have given the students a false sense of their mastery of the material, when in fact, they only had a familiarity with the material. Memorizing or merely reading solutions prepared by others is not the same skill set as the ability to solve new problems. To help students get a better understanding of the material, we developed a practice exam through the publisher's website for students to use in reviewing for the actual final. The practice exam mirrored the actual final exam, but contained more questions. In effect, students were now taking the final exam twice. It was a great way to have students wrestle with the material before they actually took the test. It was also an avenue for feedback to the students. We had access to each student's practice exam score and the number of attempts. Based on the score, we would offer feedback to the students pertaining to how well they knew the material. Since implementing the practice exam, over 78% of the students that have taken the final exam have taken advantage of this study aid (See Table 1, Course 3).

---

<sup>2</sup> Data collected by UC Berkeley, Extension course administrator from 1/01/09 through 1/31/11.

## **FUTURE INSTRUCTIONAL DESIGN AND RESEARCH IDEAS**

A recent meta-analysis of various research studies in online learning provides some guidance to educators and confirms findings about media that have been known for decades (Means et al. 2010). The manner or medium in which a course is delivered is not as important as the way in which the students use the medium (Clark 1994). Providing students with choices or control over various mediums (text, audio, etc.) can have a positive effect on learning (Zhang et al. 2006). To better accommodate other learning styles, we are in the process of developing short podcasts to accompany each module. These short lectures will give highlights from each module including specific examples that are well illustrated in the text; concepts that are traditionally confusing for students the first time through the materials, as well as advice for use of review problems in getting ready to complete the homework.

The meta-analysis (Means et al. 2010) also gave in its narrative synthesis some insights on effective designs for online learning experiences. Providing a means for students to reflect on their grasp of the materials can provide a positive effect on learning outcomes. We plan to provide a mid-term practice exam and may include a way of scoring the exam, to incentivize students' use of the exam, but still provide more of an effort score rather than an evaluative score. One continued problem is our belief that some students take the practice exam using their textbooks and notes instead of taking it as if it were the final exam (i.e., no books or notes.)

We also are investigating the use of social media (Facebook or LinkedIn) to provide some increased interactions among the students and between the students and the instructor. As Needles (2010) notes, this growing medium needs more attention from accounting educators. We are developing some online links for the students to visit websites and then post comments in the discussion questions based on their experience at the websites. This learning activity may help increase students' reflection of their learning, which studies have shown to be a successful online practice (Means et al. 2010), as well as increase students' active learning by using social media as a form of message board and threaded discussions.

Along with these various instructional design ideas, some interesting research questions can be explored in future studies of online learning. Does the use of podcasts increase student learning? Does it increase student satisfaction with the course? Does the use of social media increase student-to-student interactions? Does it increase student to professor interactions? Does increased interaction increase the completion rate for online students? What are students' reactions to the changes in the course? These are just a few of the ideas that can be explored as faculty continue to work with this rapidly growing delivery medium in a world that gets smaller, faster, and more complex every day.

**Table 1: Student Data Collected from Online Courses**

	<b>Course #1</b> (10/09 - 2/10)	<b>Course #2</b> (2/10 - 5/10)	<b>Course #3</b> (5/10 - 3/11)
Total Student Enrollments	72	45	126
Total Submitting Introductions	n/a	42	100
Total Not Submitting Introductions	n/a	3 <sup>1</sup>	26 <sup>2</sup>
Total Submitting Assignments	60	39	104
Total Completing All Assignments	46	25 <sup>3</sup>	63 <sup>4</sup>
Started Assignments, but Not Finish Course	14	13	32
Never Started Assignments	12	7	22
Total Practice Exams Taken	n/a	n/a	48 <sup>5</sup>
Total Final Exams Taken	46	25	55
Total Passing Course	41	23	50
Total Failing Course	5	2	5

**Course Descriptions:**

**Course 1:** In this course we assumed teaching responsibilities from a prior instructor. Students were at all levels of completion when we took over, but no new students were allowed to enroll.

**Course 2:** This was the first new course offering we developed and opened for enrollment in February 2010. The course closed in May 2010 to allow for additional course redesign elements.

**Course 3:** This course opened in May 2010 and includes the new design elements of required online homework assignments using the publisher’s system, offers a practice exam and includes new quizzes.

---

<sup>1</sup> None of the three completed the course.

<sup>2</sup> Of the twenty-six students that did not provide an introduction, four completed all the assignments and twenty-two did not, (85%).

<sup>3</sup> Completion rate of students completing both the introduction assignment and the course was 59%.

<sup>4</sup> Currently, there are nine students in the class that have not completed all assignments but are on track to do so, for an anticipated 72% completion rate.

<sup>5</sup> Five students in the class have taken the practice exam, but we have not yet received their final exams to grade. Forty-three of the fifty-five students taking the final exam have taken the practice exam, (78%).

## REFERENCES

- Allen, I.E. and Seaman, J. 2010. Class Differences: Online Education in the United States, 2010. *Babson Survey Research Group and The Sloan Consortium*. Accessed online at [http://sloanconsortium.org/publications/survey/pdf/class\\_differences.pdf](http://sloanconsortium.org/publications/survey/pdf/class_differences.pdf)
- Clark, R. E. 1994. Media will never influence learning. *Educational Technology Research and Development* 42 (2):21–29.
- Means, B., Toyama, Y., Murphy, R., Bakia, M., and Jones, K. 2010. Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies. *U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Center for Technology in Learning*. Accessed online at <http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>
- Needles, B. 2010. Social Networking: Has It's Time Come? *Accounting Instructor's Report* Fall 2010. Accessed online at <http://cengagesites.com/academic/?site=3099&section=7>.
- Zhang, D., L. Zhou, R. O. Briggs, and J. F. Nunamaker, Jr. 2006. Instructional video in elearning: Assessing the impact of interactive video on learning effectiveness. *Information and Management* 43 (1):15–27.

**DEVELOPING RESEARCH AND WRITING SKILLS FOR FIRST-YEAR  
ACCOUNTING STUDENTS IN AN ORGANIZATIONAL AND SOCIAL CONTEXT**

**Mary Low  
and  
Graham Francis<sup>1</sup>**

---

<sup>1</sup> Mary Low, Email: [lai@waikato.ac.nz](mailto:lai@waikato.ac.nz) and Graham Francis,  
Department of Accounting, Waikato Management School, The University of Waikato, Hamilton,  
New Zealand. Fax: 64 7 838 4332

# DEVELOPING RESEARCH AND WRITING SKILLS FOR FIRST-YEAR ACCOUNTING STUDENTS IN AN ORGANIZATIONAL AND SOCIAL CONTEXT

## INTRODUCTION

The first year of tertiary studies and their exposure to what is the first year accounting curriculum can be the deciding factor that influences whether students take on more accounting courses and subsequently pursue accounting as a career. Even if this were not the case, it is important that a student deciding to follow a career in the management, business or commerce area should get a sound foundation on the significance of understanding accounting information and the ubiquitous role that it plays; that is, its importance not just from a purely business perspective but also its role in wider society. The importance of being able to understand financial information to be a more effective manager and decision maker cannot be underestimated as it permeates all facets of business. The Accounting Education Change Commission Position Statement No. 2 indicates that “the primary objective of the first course in accounting is for students to learn about accounting as an information development and communication function that supports economic decision making” (AECC, 1990, p. 249). It is important for such courses to prepare students to succeed in the world that exists beyond the classroom. There have been ongoing research debates as to how educators can achieve this purpose. Accounting educators have been informed that students require more than technical skills to be successful in today’s business environment. Mintz and Cherry (1993) reported that changes in accounting education should begin with the first course in accounting because it sets the tone and provided the foundation upon which future accounting courses will be built upon. Citing the 1992 AECC report, they also noted that the first course in accounting shaped potential accounting majors’ perceptions of the profession, the aptitudes and skills that would be required for successful careers in accounting. Alder and Milne (1997) argue that:

“[t]he basis for change in accounting education to more active student involvement is much broader than the need to supply the accounting professions with graduates who possesses skills and competencies. Active student engagement, in fact is seen by several educationalists as an essential ingredient in all student learning and the developing of lifelong learning skills.”

(Alder and Milne, 1997, p191)

Murphy and Hoepfner (2002) explain that both “[P]ractitioners and accounting academics agree that the skills needed to succeed in an ever evolving global business environment include communication skills, analytical and problem-solving skills, development of team concepts, demonstrated savvy in computer technology, and effective business decision-making skills” (p. 331 – 332). The New Zealand Institute of Chartered Accountants (NZICA) website, for instance identifies that a chartered accountant member is a skilled business professional who should have:

- “a broad business (and non-business) education;
- a firm grounding in accounting knowledge and skills;
- organisational and (inter)personal skills, including efficient and effective communication;
- higher level business skills (such as analytical skills, strategic thinking, problem solving and judgement) and
- professional values (including a strong ethical framework)”

(<http://www.nzica.com/StaticContent/download/member/CAInfoUpd.pdf>).

The wide range of skills developed in a specific course is perhaps best considered part of the overall skill development in the degree. Watson et al (2003) indicated:

“Designing an accounting curriculum requires not only providing students with the necessary technical knowledge, but increasing requires the development of other personal skills such as the ability to solve problems, manage time, communicate, and work in groups.”

(Watson et al, 2003, p303)

Samkin and Francis (2008) consider how different approaches to teaching financial accounting can improve student engagement and encourage critical thinking skills and creativity. An introductory level accounting course taken at the first year of tertiary study for high school leavers has an important role in establishing or changing students’ perceptions of the nature of studying accounting (Cory, 1992, Saudagaran, 1996 and Mladenovic, 2000). Mladenovic (2000) reported that there was evidence that:

“...accounting students come to their study of introductory accounting with many stereotypical negative perceptions of accounting...the few studies examining ways to change students’ negative perceptions explore the effectiveness of various teaching methods... the results show that while non-traditional teaching methods such as cooperative learning and case based learning are more effective ... than traditional methods ... these methods provide only limited success ...[and that accounting educators need to align] objectives, activities, teaching methods and appropriate assessments.”

(Mladenovic, 2000, pp152-153)

Albrecht and Sack (2000) write that accounting pedagogy needed to include “elements of group work to teach leadership and working together, role playing to teach negotiation, technology assignments to teach technology, and larger projects to teach management” (p. 64) and to expect “students to do research on the Web and use the wide variety of data service available” (ibid).

This paper describes a project that has been used in a compulsory year one accounting course at the undergraduate level for a business/management degree. The project requires students to work in a group to develop their research and writing skills by working with online databases containing financial and non-financial information to write a 3,000 word report that analyses and evaluates the financial performance and position of selected publicly list companies with the overall objective of making informed recommendations from either a potential investor’s or lender’s perspective. Bhattacharjee and Shaw (2001) found that internet projects would “not only develop computer-based skills but more crucially improve perceptions toward technology” (p.96). The project report also requires a discussion on topical matters that enhances the students’ understanding of accounting functions and information within an organisational and social context. The use of actual companies injects a sense of realism from the students’ perspectives. Also using online resources would therefore appear to be a suitable response to better meeting the educational needs of a first level accounting course (Bhattacharjee and Shaw, 2001 and

Paisey and Paisey, 2003). This educational approach should address some of the issues raised by Albrecht and Sack (2000) for accounting educators' commitment to skill development that covers such areas as:

- accounting and its role in society;
- the accounting profession;
- analysis of accounting information: what does accounting information tell us?;
- using accounting information (financial and nonfinancial) to make decisions;
- using technology in business and decision making;
- tax accounting and its effects on overall decision making; and
- using accounting information in different industries therefore allowing delivery methods to develop students' critical skills.

### **DESCRIPTION OF FIRST-YEAR ACCOUNTING COURSE**

The compulsory level one accounting course taught for the business/management degree at our University is titled: Accounting for Management. This course is compulsory regardless of the subject major that the student was enrolled for in their business analysis or management degree studies. The non-debatable logic behind this stance is that all business/management students needed to have a basic understanding of how to use accounting information for decision making. It would be naive, for instance, to have a strategic manager making important operating, investing and financing decisions without any real understanding of the financial numbers that he/she was working with. All managers, regardless of whether they practice in the areas of marketing, human resource, strategic or finance, would benefit from having financial literacy skills in their core skill set. The purpose statement for our level one accounting course is explicitly stated in the course outline as: This course emphasises the organisational and social context of accounting. It is based on the view that accounting is a ubiquitous social practice and is an integral aspect of the management of organisations and that the course covers both the technical aspects of the provision and use of accounting information, and the social processes involved in planning, co-ordinating and evaluating activities in complex organisations. The accounting course objectives are stated in the course outline as:

*The principal objectives of this course are to help you to:*

1. *appreciate the communicative and socially constructive nature of accounting.*
2. *recognize and critically evaluate how accounting is implicated in everyday life in organizations and society.*
3. *interpret financial statements with an awareness of their context and source.*
4. *understand and be able to apply basic costing, budgeting and quantitative modelling techniques such as Cost-Volume-Profit analysis.*
5. *understand the strengths and limitations of the numerical representation of complex processes.*
6. *develop skills in creative solving and team work.*

To achieve the course objectives, we provide individual and group assessments that contain a combination of formative and normative activities that require students in some instances to investigate what real life companies are doing. Marriott and Lau (2008) write that “in order to

test a wide range of intended learning outcomes diversity of assessment practice is necessary” (p. 75). The course assessments include two in-semester tests, online tests, tutorials and case presentations and a company project. The online tests were related to lectures and chapter readings and encourage students to test their understanding of the material they have learnt while also earning marks towards their internal coursework. The assessment activity involving case presentations by students take the form of teams presenting their findings within their individual tutorial groups. Students are encouraged to present using innovative and creative presentations using whatever media at their disposal, for example, powerpoint and/or overhead projectors and the use of props with strong recommendations towards class participation. Groups that engaged their audience gained more marks than groups that just stood in front with overheads. The use of cooperative learning within an instructional environment whereby students work in groups with shared goals and shared responsibility for their own learning as well as for other group members would lead to the improvement of interpersonal skills, content knowledge, and higher-level thinking ability as postulated in van der Laan Smith & Spindle (2008). With their understanding of how accounting works in an organisational and social context through lectures, tutorials, readings and case presentations, students are also required to complete a major assessment activity for this accounting course. The assessment activity involves students working in teams and conducting research on companies and submitting a “company project” report. It is this company project that this paper will discuss in more detail.

## **COMPANY PROJECT OVERVIEW**

This project is usually completed in teams of two or three students. A sample template of the general objectives and requirements of the company project for the accounting course is presented fully in Appendix I. The “company project” involved students investigating the performance of New Zealand publicly listed companies and is usually chosen from the top 50 companies listed in the New Zealand Stock Exchange (NZX) (see Appendix II for an illustration). The companies selected are changed every teaching semester to prevent plagiarism and to encourage students to develop their own analysis and writing skills. The years under investigation and review were also extended to include the latest available annual report for the chosen companies. Furthermore, the perspective from which the companies could be analysed and evaluated has involved shareholder, potential investor, bank manager and lender and even employees’ perspectives. These perspectives were also rotated each semester. In line with advances in technology and e-learning/e-education directions of accounting education, the “company project” encouraged students to carry out their research via the internet. The student’s project and written report also had to be a word-processed document. In addition, the project report had to use the APA referencing style to list and reference appropriately any research material used by students.

The company project requires students to research information that they will need to analyse and evaluate to provide a broader/wider picture of how well the companies are actually performing. This requires students obtaining information from sources other than the companies’ annual reports or websites and thereby building/enhancing their research skills. This ideally means that students should be looking for information that may be provided by a financial analyst’s websites (for example, Factiva, NZX deep archive) which can provide information about the company’s investment potential, market share price trends and other information. In

addition, students are encouraged to search for newspaper articles via on-line databases (Appendix III: Research Resources for Company Project) that might provide information about the companies that would not be readily showing up in the companies' own annual reports as such information might be viewed by the companies as providing detrimental and negative information to shareholders/stakeholder but nevertheless it can be argued that such information is important for overall evaluation of the companies' prospects. While carrying out their research, students were encouraged to assess and make judgements on the integrity of information sourced from various mediums. Rabele, Apostolou, Buckless, Hassell, Paquette & Stout (1998) argue that technology, when used appropriately can result in more effective and efficient learning. Students are encouraged to think laterally as well as critically about what they are doing and how they need to analyse and evaluate the company by using not only financial information but also non-financial information that can be sourced from a number of different places. For example, in different semesters we have asked students to examine triple bottom line issues or to look for information that allows the potential investor to consider the investment from an ethical investor's perspective. The submission date for the company project assessment activity is usually set after relevant material like:

- the understanding of and the use of financial information for decision making,
- accounting concepts and regulation,
- financial statements and financial statement analysis,
- accounting for a wider environment (including triple bottom line reporting issues), and
- accounting as a profession and ethical issues topic areas were covered in lectures.

An underlying objective of the project was that students learn to apply the knowledge that has been provided through lectures, workshops, tutorials, reading the prescribed textbook and other provided resources. In essence, this project is a feedback loop which demonstrates how well student have understood the taught material and applied their learning to a real business setting within an organisational and social context.

### **Students' performance in the company project**

To provide some insights on students' performance in the "company project" assessment component, six semesters' overall mark distributions for the project have been summarised and presented in Appendix IV. While the majority of students submitted their completed projects, invariably, there were a small number of students who did not complete the project. These students also tended not to do well in the course overall and invariably most of these students would not attempt the final examination. The mean mark for the project over the 6 semesters in Appendix IV has tended to be around the 60% mark. The general observation from the marking team is that while students tended to write well about the financial analysis, they failed to bring in adequate discussion on wider socio-economic environmental issues that contributed to the overall evaluation of the companies that they were investigating. Students who extended their research and communicated well in written words generally scored in the high 80-90 mark range. Students who performed well in their projects showed that they were knowledgeable, articulate, creative, responsive to challenges and had written a good project report that communicated the findings from their research investigations into the companies' performance in an informed and well structured manner.

The students' perceptions of the project have been monitored by a series of evaluation surveys. The survey findings are important as they help identify students' perception of the company project assessment activity. The feedback from this survey will help to evaluate whether or not the company project is a useful learning tool.

### **Student Feedback**

Student feedback was obtained through surveys conducted on Semesters 1 and 2 groups of students and repeated in Semester 6 to evaluate whether there were any significant changes in perception on the usefulness and relevance of this project to students' learning. The findings from the questionnaire survey are presented in Appendix V. A key finding was that significant percentages of students overall preferred that the project involved companies that were actually publicly listed (Q1) and that they preferred to write a report of longer length (verbal feedback/communications during some semesters from students had indicated that they would have preferred the word limit to be higher) (Q2). The next important issue was whether students felt that the project helped them to improve their financial analysis and interpretation skills (Q3). For all three semesters surveyed, significant percentages of students felt that the project helped them improve their skills in these areas. Some of the "Yes" response explanations have been extracted and provided in Appendix VI. It would appear that the majority of students found the incorporation of company annual reports into the project to be highly beneficial to their learning and brought about improvements to their financial analysis and interpretation skills. A number of explanations indicated that students found the usage of "real-life" examples enhanced their learning of "theory" put into practice.

Students were also asked if they felt that the project helped improve their research skills in using the internet and other databases (Q5). Overall the majority of students indicated that the project helped improve their research skills. Extracts of the explanations for the "Yes" responses are provided in Appendix VII. Generally, students felt that they were given exposure to databases they had not used before and learned how to find and bring in relevant information for the specific purposes of the project and the companies that they were investigating. Students were also asked about their perceptions of working in teams (Q 7 and 8). Overall a higher percentage of students indicated that they worked "well" and "very well" in their teams but that they would also have preferred that compulsory peer assessment forms be completed to indicate individual team members' efforts for the project.

### **CONCLUSIONS**

This paper explained the objectives and requirements of the company project that incorporated company annual reports into the classroom. Chua (1999, p.1) noted: "It is often pointed out that the current system tends to produce accounting technicians who are experts in technical matters rather than professionals who are capable of critical thinking/judgement". Livingston (1992, p. 85) stated: "Above all, we will see increasingly in the best schools a commitment to teaching students to think, as distinct from filling their heads with information ... More and more, we will

be at risk of drowning in facts, in data, and in information; we will survive only if we cultivate the highest skills of analysis, synthesis, and judgement". For the majority of students, our survey findings indicate that the company project was perceived to be a valuable learning tool. Students indicated that that they found that the use of real-life companies helped them to improve their financial analysis and interpretation skills and that it allowed them to apply theory to practice. They also indicated that the project helped them improved their research skills in using the internet and other databases. Overall the approach of using real companies would seem to be a success. Our survey findings indicate students enhance their learning and benefited immensely from this type of research assessment activity. This finding suggests that other tertiary institutions could look at adopting such research based assessment activity to bring real life business issues as well as utilise a wider organisational and social context approach into their accounting education curriculum.

## REFERENCES

- Accounting Education Change Commission [AECC]. (1990). Objectives of Education for Accountants: Position Statement Number One. *Issues in Accounting Education*, 5(2), 307 – 312.
- Accounting Education Change Commission [AECC]. (1992). The First Course in Accounting: Position Statement No. Two. *Issues in Accounting Education*, 7(2), 249-251.
- Albrecht, W.S., & Sack, R.J. (2000). *Accounting Education: Charting the Courses through a Perilous Future*. American Accounting Association Accounting Education Series, Vol. 16.
- Alder, R.W., & Milne, M.J. (1997). Improving the quality of accounting students' learning through action-oriented learning tasks, *Accounting Education: an International Journal*, 6(3), 191-215.
- Bhattacharjee, S., & Shaw, L. (2001). Evidence that independent research projects improve accounting students' technology related perceptions and skills, *Accounting Education: an International Journal*, 10(1), 83-103.
- Chua, F.C. (1999). The role of history: Challenges for accounting educators, Department of Accountancy and Business Law, Discussion Paper Series 191, September, Massey University, New Zealand.
- Cory, S. (1992). Quality and quantity of accounting students and the stereotypical accountant: is there a relationship? *Journal of Accounting education*. 10, 1-24.
- Lawrence, S., Davey, H., & Low, M. (2007). *Accounting at Work in Business, Government and Society*, Fourth Edition, Auckland, New Zealand: Pearson Education.
- Livingston, W. (1992). Looming demands on higher education, *Issues in Accounting Education*, 7(1), 80 -86.
- Marriot, P. & Lau, A. (2008). The use of on-line summative assessment in an undergraduate financial accounting course, *Journal of Accounting Education*, 26, 73 – 90.
- Mintz, S., & Cherry, A. (2002). The introductory accounting course: Educating majors and nonmajors, *Journal of Education*, 276-280.
- Mladenovic, R. (2000). An investigation into ways of challenging accounting students' negative perceptions of accounting, *Accounting Education: an International Journal*, 9(2): 135-155.
- Murphy, E.A. & Hoepfner, C.J. (2002). Using technology and library resources in financial accounting courses, *Journal of Accounting Education*, 20(4), 331-346
- New Zealand Institute of Chartered Accountants [NZICA]. (n.d). Becoming a Chartered Accountant, Retrieved 16 October 2006, (<http://www.nzica.com/StaticContent/download/member/CAInfoUpd.pdf>).
- Paisey, C., & Paisey, N.J. (2003). Developing research awareness in students: an action research project explored, *Accounting Education: an International Journal*, 12(3), 283-302.
- Rebele, J.E., Apostolou, B.A., Buckless, F.A., Hassell, J.M., Paquette, L.R. & Stout, D.E. Accounting Education Literature Review (1991 – 1997), Part II: Students, Educational Technology, Assessment, and Faculty Issues, *Journal of accounting Education*, 16(2), 179-245.
- Samkin, G., & Francis, G. (2008). Introducing a Learning Portfolio in an Undergraduate Financial Accounting Course, *Accounting Education: An International Journal*, 17(3), 233-271.
- Saudagaran, S.M. (1996). The first course in accounting and innovative approach, *Issues in Accounting Education*, 11(1), 83-94.

- van der Laan Smith, J., & Spindle, R.M. (2008). The impact of group formation in a cooperative learning environment. *Journal of Accounting Education*, 25, 153-167.
- Watson, S.F., Apostolou, B., Hassell, J.M., & Webber, S.A. (2003). Accounting education literature review, *Journal of Accounting Education*, 21(4), 267-325.

## Appendix I: Objectives and Requirements of the company project

The objective of this company project is to build upon your ability to work in a team (of two members) to conduct an investigative report on two pre-selected companies. This project is to help you develop investigative and research skills through the collection of data from annual reports, newspapers, the Internet and other electronic databases (see Student Guide to Using Electronic Resources at the Waikato Management School).

- The company project has to be “WEB SUBMITTED” by *DATE xx* (Friday), 12 noon. Click on the “Assessment” folder in MyWeb and then click on Web Submit under submission details. You and your team member will need to submit only one file but please make sure that both your names are on the cover sheet of the web-submitted project.
- All projects will automatically be screened through the ‘Turnitin’ plagiarism application. Any material that you and your team member use must be referenced appropriately. Any report found to have significant copying and plagiarism issues will be penalised through a zero grade for the project or failure of the course depending upon the seriousness of the infringement and disciplinary action will be taken.
- This compulsory project is worth 25% of your internal coursework mark. The marked project will be returned within 2 weeks via tutorials.

### For the Group Project:

1. Your tutor will indicate the three companies that the group must investigate.
2. Your investigation of the companies should:
  - (i) Discuss the importance of using accounting information to carefully identify solvency issues in making lending decisions.
  - (ii) Analyse and interpret the companies’ financial statements from their most recent annual reports over a period of 3 - 5 years.
  - (ii) Obtain other data (from newspapers, the Internet, electronic databases or other sources) that will help the group provide an overall picture (includes financial and non-financial information) of how the companies are performing. The discussion in this section of your project should clearly bring in any issues (can be triple bottom line issues) that a **potential lender** should be aware of regarding these companies.
  - (iii) The overall findings of your project should support the group’s recommendation regarding the **debt riskiness** of the three companies and which would be the preferred company to lend \$200 million to.
3. Present your findings clearly in a report with an appropriate structure with suitable headings that will allow a lender to read and evaluate which one of the three companies the group have investigated is the safest company to lend to. (Refer to Appendix 1 of the prescribed Text. This appendix provides you with information on the importance of properly analysing the performance and position of an organisation).
4. This report should be word-processed and should not exceed 2,500 words. Proper referencing (see APA referencing website) of any articles used in this project must be given in a Reference Section in the report. Any other material that you think is important for the potential lender to see (e.g. the financial statements) can be placed in the Appendix of your report. See pages 15 to 20 of this course outline for report-writing guidelines.
5. If your group has a member unwilling to do an equal share of the work, please let your tutor know immediately so that the problem can be addressed early. There is a “Group Peer Evaluation Form” available on page 21 of this Course Outline that the group will need to fill in so that marks are awarded fairly to those members of the group that do not contribute equally to the work. Please do not hesitate to discuss this issue with your tutor or Convenor otherwise your mark may also suffer as a consequence of the group not being able to work together. The report must not be a piece-meal effort by members.
6. No extensions of time will be granted except on the same grounds as apply for “Alternative arrangements for examinations and tests policy (see this policy on page 12 of this outline). Any projects handed in late will incur penalties of 5 marks per day. Students should also not exceed the word limit or place material in the Appendix that has not been referred to in the body of the project. This may incur penalties.

## Appendix II:

An example of financial information found under the “Financials” folder for one of the companies listed in the NZX40.

**NZX - DEEP ARCHIVE SERVICE - Windows Internet Explorer**

http://companyresearch.nzx.com.ezproxy.waikato.ac.nz/deep\_ar/

File Edit View Favorites Tools Help

NZX - DEEP ARCHIVE SERVICE

**NZX** **Air New Zealand Limited**

Company Directory: Total Amount - \$000 89,845 84,047 50,108 49,967

Listed Securities

Company Profile

Financial Profile

Full Financials

Trading & Ratios

Price History

Price Charts

Annual Reports

Forecasts

Announcements

Dividends

Events & Documents

Top 100 Holders

NZCSD Holders

Quick Search or Browse  
enter code or part of name

Only show companies in  
All companies

SEARCH

Events

Data

Advanced Searches

Indices Data

Indices Charts

Sectors

Sectors Data

Sectors Charts

Annual Reports Service

Go to Logon Screen

Conditions of Use

Logout

### STATISTICAL MEASURES

DATE ENDING	30-Jun-08	30-Jun-07	30-Jun-06	30-Jun-05	30-Jun-04
<b>LIQUIDITY</b>					
Current Ratio	1.25	1.32	1.09	1.34	
Quick Assets Ratio	1.15	1.22	1.00	1.23	
Net Prft Div Cover	2.43	2.55	1.92	3.60	
Cash Flow Div Cover	6.97	6.53	6.71	8.27	
<b>LEVERAGE</b>					
Sh/ders' Equity%	30.84	35.36	33.31	37.66	3
EBIT:Interest Pd	n/a	3.46	2.47	7.27	
<b>ACTIVITY</b>					
Inventory Turnover	28.73	28.47	25.74	28.25	2
Fixed Assets T'over	1.65	1.44	1.37	1.80	
Total Assets T'over	0.91	0.84	0.76	0.88	
<b>PROFITABILITY</b>					
Pretax Pft:Sales %	6.74	5.87	2.90	6.42	
Dil Earn: Sh/Eqty %	14.18	13.62	8.78	11.94	1
Dil Earn: Tot/Fds %	4.37	4.81	2.93	4.50	
Tax Rate %	28.29	12.30	9.43	22.41	3
<b>GROWTH</b>					
Turnover %	8.52	13.73	1.08	3.38	-
Net Income %	1.87	122.92	-46.67	8.33	
EPS adjusted (c)	20.66	23.29	13.98	5.57	1
DPS adjusted (c)	8.50	8.00	5.00	5.00	
Cash EPS adj (c)	59.34	53.73	33.55	12.52	4
Undil NTA adj (\$)	1.45	1.66	1.59	1.54	
Dil NTA adj (\$)	1.45	1.66	1.59	1.54	
<b>VALUATION</b>					
Adjusted Share Price	109.00	264.00	118.00	145.00	19
Current P/E Ratio	5.28	11.33	8.44	26.05	1
Current Div Yld %	7.80	3.03	4.24	3.45	
Price/ Cash Flow	1.84	4.91	3.52	11.58	
Price/NTA	0.75	1.59	0.74	0.94	

Extracted from the NZX – Deep Archive database website: <http://www.irc.co.nz>

## Appendix III: Research Resources for Company Project



### Research Resources for Company Project

**The Primary Data Source for this assignment is:**  
[NZX deep archive](#) – You will be provided with instructions on how to access & use this database.

**Overview of Resources**  
 For an overview of information sources pertaining to NZ company research see - [NZ Company Mind Map](#)  
 For searching newspapers and current news about companies - go directly to the [Online Database](#) page in MyWeb

**Notes for using databases for company research**  
[Factiva](#) - For International news perspective - For instructions on how to use this database [click here](#).  
[Newztext](#) - For New Zealand news perspective- For instructions on how to use this database [click here](#).  
[Newztext Plus](#)  
[Newztext Newspapers](#)  
[Newztext Magazines](#)

**Useful Search Engines and websites**  
[Google](#) - especially [advanced Google](#) - global search engine  
[SearchNZ](#) - this is a useful New Zealand search engine  
[Yahoo](#) - global search engine  
[Hoovers online](#)

**Other resources to help you with your company project**  
[Student Guide to Using electronic Resources at the Waikato Management School](#)  
[APA Referencing Guide](#)  
 How to write up your Report- Some Internet resources  
[Business report writing](#)  
[Guide To Business Report Writing](#)  
[Writing business reports](#)

## Appendix IV: Company Project Mark Distribution Findings

	Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6
Number of students in class	256	264	278	388	256	218
Number of students completing the project	220	239	266	374	221	195
Mean Mark (%)	66.78	62.31	58.33	56.41	60.55	59.88
Standard Deviation (%)	12.79	11.36	15.06	14.20	13.50	14.84
Highest mark	94	87	91	95	90	99
Lowest mark	10	35	16	17	9	9



## Appendix V: Questionnaire Survey and Results

		Overall weighted average over 3 semesters		
		Actual publicly listed companies	Made-up company	No opinion
<b>Q1</b>	The project investigated actual publicly listed (real) companies. Which would you have preferred to investigate?	140 (89%)	15 (10%)	2 (1%)
		Yes	No	
<b>Q2</b>	The project had a maximum word length of 2,000 words (3,000 words for Semester 6). Was this word length adequate for your investigation?	106 (68%)	51 (32%)	
		2,500 words	3,000 words	Other
	If your answer is No, what word length would you have preferred? (Tick one box)	16 (27%)	39 (65%)	5 (8%)
		Yes	No	No opinion
<b>Q3</b>	Did the project help you improve on your financial analysis and interpretation skills?	129 (82%)	27 (17%)	1 (1%)
		Yes	No	No opinion
<b>Q4</b>	Statistical measures (financial ratios) were provided in the project. Would you have preferred to do your own calculations to build up on your own understanding on how to derive these financial ratios?	70 (45%)	84 (54%)	3 (1%)
		Yes	No	No opinion
<b>Q5</b>	Did the project help you to improve your research skills in using the internet and other databases?	104 (66%)	52 (33%)	1 (1%)
		Not very difficult	Difficult	Very difficult
<b>Q6</b>	How difficult was it for you to learn to use the internet and other databases?	122 (78%)	30 (19%)	4 (3%)
		Yes	No	No opinion
	Would you be interested in training sessions on how to use the internet and other databases?	70 (45%)	84 (54%)	3 (1%)
		Not very well	Well	Very well
<b>Q7</b>	The group project was a team effort. How well did your team work together?	31 (18%)	79 (45%)	66 (37%)
		Yes	No	No opinion
	Would you have preferred that it was compulsory to complete peer assessment forms?	82 (47%)	91 (52%)	3 (1%)
		Yes	No	No opinion
<b>Q8</b>	Would you have preferred to do the project on an individual basis (i.e. by yourself)?	67 (38%)	104 (59%)	6 (3%)
		Yes	No	No opinion
<b>Q9</b>	The group project is worth 30% of internal coursework. Would you have preferred that this project be worth less and have an additional piece of assessment?	53 (34%)	101 (64%)	3 (2%)
		Essay	Another Test	Other
	If your answer was Yes, what would you prefer?	24 (49%)	17 (35%)	8 (16%)

## Appendix VI: Explanations (verbatim) extracted for the “Yes” responses from Question 3

- Sparked interest as was a real company.
- Had to use real figures/information and translate it.
- Learnt how to fully analyse a company.
- Because it was a real company we saw how real statements are analysed.
- Gave me a view of how all this analysis might look in real life.
- By having real company you could relate it to what actually was happening in the real world.
- Had to apply ratios to “real life” company.
- I enjoyed it!
- Looking at real companies re-inforced what we had learnt.
- Looking at a real company you get to see how a company is performing over a longer period (5 years) than exercises we have done.
- Having to look for the information in a real company helped me to learn what it was I was actually looking for and interpreting.
- Became more aware on how it applied to real life – made us think for ourselves.
- Application the concept of the knowledge, understanding more deeply.
- Because actually using real information is a lot more interesting.
- I really enjoyed doing the research of it.
- Real figures made ratios relevant.
- Got to use them in a real situation.
- Had more practice. Could relate to a real world what helps me to understand the theory.
- We have to review all the contents before we began to write.
- Gave practice to put new skills into real practice.
- Made it real and relevant.
- As the investigative process of a company was a new experience for me – it was valuable in the learning process.
- Real life applications, greater understandings.
- Real world measurements differ from textbooks.
- Examining real companies data enabled me to gain a realistic view of actual financial data and was able to take ratios and calculate data thus improving financial analysis skills etc.
- Doing the calculations – stretched our thinking and ability – demanding but rewarding.
- Because it forced us to use the skills we’d learnt.
- Able to listen to other peoples view and so increasing my awareness.

### **Appendix VII: Explanations (verbatim) extracted for the “Yes” responses from Question 5**

- It pushes me to do independent research.
- Having to look for information made it feel like you were a real investor.
- Had to sift through data to find relevance information.
- Improved searching for specifics.
- Broaden horizon on where to look for continuous information
- Enjoyed researching the company the most.
- We had to find some information to support some of the ideas.
- As there was a lot of research involved.
- Learnt how to use library and internet databases.
- Difficult thing to investigate – required different research methods applicable for company.
- Such as reference, format and how to use computer.
- Had to find our own resources for company information that would give us better insight into the company.
- Need to read the articles and find the relative information to improve the project.
- We had to eliminate the websites that weren't important.
- Learned to use the internet and resources.
- I used databases I had not used before.
- Wouldn't have gone out of my way to use the other databases if it wasn't for the assignment.
- Never really used newspaper databases before.
- Was good learning my way around the Internet.
- Found new ways and search engines for internet.
- Learnt about advanced search feature in newspaper sites.
- I can try to search different information about a company.
- Find out how to use the online databases and how to find information very quickly.
- I gained experience in using the research engine and now know how to use them more effectively.
- Certain information had to be found – took time, forced comprehensive skills.
- Forced us to research outside information sources rather than just getting all the information given straight to us.
- Datex – I never know it was there.
- Through the internet to look for companies' information.
- It did help us on how to link the things we have studied with the things outside University.

**USING SPREADSHEET SOFTWARE TO TEACH THE RECIPROCAL METHOD OF  
SERVICE DEPARTMENT COST ALLOCATION**

By:

Gerald K. DeBusk  
UC Foundation Associate Professor of Accounting  
University of Tennessee - Chattanooga  
Department of Accounting  
615 McCallie Ave. (Dept. 6206)  
Chattanooga, TN 37403-2598  
[Gerald-DeBusk@utc.edu](mailto:Gerald-DeBusk@utc.edu)  
(423) 425-4770

Timothy B. Forsyth  
Kenneth E. Peacock Professor of Accounting  
Appalachian State University  
Department of Accounting  
Boone, NC 28608  
[forsythtb@appstate.edu](mailto:forsythtb@appstate.edu)  
(828) 262-6205

January 21, 2011

## **USING SPREADSHEET SOFTWARE TO TEACH THE RECIPROCAL METHOD OF SERVICE DEPARTMENT COST ALLOCATION**

Accounting textbooks typically cover three methods for allocating service department costs: (1) the direct method, (2) the step-down or sequential method and (3) the reciprocal method. Both the direct and step-down methods are easy to apply, but both of these methods are flawed because they do not allow the full allocation of reciprocal service costs. By contrast, the reciprocal method allows complete freedom in allocating service department costs to other service departments as well as to operating departments. Unfortunately, the reciprocal method is often overlooked in the classroom because its application requires solving a series of simultaneous equations through the use of matrix algebra. This paper presents a multiple-department service cost allocation problem. We first “solve” the allocation problem using the direct and step-down methods, and then fully demonstrate how the reciprocal method can be applied quickly and easily using an Excel spreadsheet.

In a manufacturing setting, accountants allocate service department costs to operating departments so that all of the service costs can be attached to the product. Our example presents a hypothetical manufacturing company with four service departments and three operating departments. Annual overhead costs are presented in Table 1; the allocation percentages are provided in Table 2. Note that service department costs are incurred in support of other service departments as well as operating departments.

### **DIRECT METHOD**

As stated earlier, the direct method is simple to apply because it allocates service department costs directly to the operating departments (see Table 3). In the example, the operating department allocation percentages are summed with each department receiving a proportionate allocation of a given service department costs. For example, 60% of Administration costs are incurred in support of operating departments (15% to Machining, 30% to Assembly and 15% to Finish & Packaging). Thus, Administration costs are allocated as follows: 15/60 to Machining; 30/60 to Assembly; and 15/60 to Finish & Packaging. Because the allocation scheme completely ignores reciprocal service costs, the cost allocations to the operating departments may be distorted.

### **STEP-DOWN METHOD**

The step-down method represents an improvement over the direct method because it provides for *partial* allocation of reciprocal service costs among service departments. The first department costs to be allocated (Administration in our example) will be allocated to all other departments, service and operating, using the allocation percentages provided in Table 1. The step-down allocation scheme is illustrated in Table 4. Note that once costs have been allocated out of a department, the step-down method does not allow subsequent reciprocal service costs to be allocated back to that department. Accordingly, Finance department costs will be allocated to every department except administration on a *pro rata* basis (i.e., 10/85 to Maintenance, 25/85 to Material Handling, and so forth). The process continues in a similar fashion for the remaining departments with the costs in the last service department being allocated only to operating

departments. While the step-down method more fully allocates cost than the direct method, it is still flawed because it does not allow total freedom in allocating reciprocal service costs among service departments.

## **RECIPROCAL METHOD**

The reciprocal method results in an allocation scheme that more faithfully represents the usage of service costs across departments, because it allows complete freedom in allocating reciprocal service costs. The reciprocal method is seldom taught, though, because its application relies on a system of simultaneous linear equations whose resolution requires the use of matrix algebra. Our example demonstrates that the reciprocal method may be applied easily using an Excel spreadsheet and an iterative process, tools with which most instructors are familiar and comfortable (see Table 5). The reciprocal method allows service department costs to be allocated to other service departments regardless of the order of the allocations. Even after costs are allocated out of a department, that department may receive allocations from other departments. By continuing to allocate the residuals in repeated iterations, the amount of the residual is quickly reduced to an immaterial amount. After only three iterations in our example, the amount of overhead left in the service departments is \$4,635 ( $\$3,498 + \$727 + \$410$ ) or less than 0.2% of the original costs of \$2,725,000 incurred in the service departments. Given the immaterial amount remaining in the service departments, we could have switched to the direct or step-down methods to allocate the remainder. We chose to continue through seven iterations to show that the iterative approach will allocate all the service department costs to the operating departments. Moreover, once the spreadsheet formulas are in place, adding an iteration is as simple as copying and pasting.

The reciprocal method is preferred for allocating service department costs. With the iterative approach to the reciprocal method, overhead cost allocations that reflect actual usage can be achieved with very little additional effort. All that is required is the use of spreadsheet software to run through a handful of iterations.

Table 1								
Department Overhead Costs								
	Service Departments				Operating Departments			Total
	Admin	Finance	Maintenance	Material Handling	Machining	Assembly	Finish & Packaging	
Department Overhead Costs	\$1,700,000	\$350,000	\$275,000	\$400,000	\$650,000	\$400,000	\$225,000	\$4,000,000

Table 2								
Allocation Percentages								
Department	Admin	Finance	Maintenance	Material Handling	Machining	Assembly	Finish & Packaging	Total
Administration	0%	20%	5%	15%	15%	30%	15%	100%
Finance	15%	0%	10%	25%	20%	25%	5%	100%
Maintenance	5%	5%	0%	5%	55%	20%	10%	100%
Material Handling	15%	5%	5%	0%	40%	20%	15%	100%
Machining	0%	0%	0%	0%	100%	0%	0%	100%
Assembly	0%	0%	0%	0%	0%	100%	0%	100%
Finish and Packaging	0%	0%	0%	0%	0%	0%	100%	100%

Table 3								
Direct Method								
Department	Service Departments				Operating Departments			Total
	Admin	Finance	Maintenance	Material Handling	Machining	Assembly	Finish & Packaging	
Department Overhead Costs	\$1,700,000	\$350,000	\$275,000	\$400,000	\$650,000	\$400,000	\$225,000	\$4,000,000
<b>Allocations:</b>								
Administration	(1,700,000)	-	-	-	425,000	850,000	425,000	-
Finance	-	(350,000)	-	-	140,000	175,000	35,000	-
Maintenance	-	-	(275,000)	-	177,941	64,706	32,353	-
Material Handling	-	-	-	(400,000)	213,333	106,667	80,000	-
Total	\$ -	\$ -	\$ -	\$ -	\$ 1,606,275	\$ 1,596,373	\$ 797,353	\$ 4,000,000

Table 4								
Step-Down Method								
Department	Service Departments				Operating Departments			Total
	Admin	Finance	Maintenance	Material Handling	Machining	Assembly	Finish & Packaging	
Department Overhead Costs	\$1,700,000	\$350,000	\$275,000	\$400,000	\$650,000	\$400,000	\$225,000	\$4,000,000
<b>Allocations:</b>								
Administration	(1,700,000)	340,000	85,000	255,000	255,000	510,000	255,000	-
Finance	-	(690,000)	81,176	202,941	162,353	202,942	40,588	-
Maintenance	-	-	(441,176)	24,510	269,607	98,039	49,020	-
Material Handling	-	-	-	(882,451)	470,641	235,320	176,490	-
Total	\$ -	\$ -	\$ -	\$ -	\$ 1,807,601	\$ 1,446,301	\$ 746,098	\$ 4,000,000

**Table 5**  
**Reciprocal Method**

**Iteration 1**

Department	Service Departments				Operating Departments			Total
	Admin.	Finance	Maintenance	Material Handling	Machining	Assembly	Finish & Packaging	
Department Overhead Costs	\$1,700,000	\$350,000	\$275,000	\$400,000	\$650,000	\$400,000	\$225,000	\$4,000,000
<b>Allocations:</b>								
Administration	(1,700,000)	340,000	85,000	255,000	255,000	510,000	255,000	-
Finance	103,500	(690,000)	69,000	172,500	138,000	172,500	34,500	-
Maintenance	21,450	21,450	(429,000)	21,450	235,950	85,800	42,900	-
Material Handling	127,342	42,448	42,448	(848,950)	339,580	169,790	127,342	-
Total	252,292	63,898	42,448	-	1,618,530	1,338,090	684,742	4,000,000

**Iteration 2**

Department	Service Departments				Operating Departments			Total
	Admin.	Finance	Maintenance	Material Handling	Machining	Assembly	Finish & Packaging	
Department Overhead Costs	\$ 252,292	\$ 63,898	\$ 42,448	\$ -	\$ 1,618,530	\$ 1,338,090	\$ 684,742	\$ 4,000,000
<b>Allocations:</b>								
Administration	(252,292)	50,458	12,615	37,844	37,844	75,687	37,844	-
Finance	17,153	(114,356)	11,436	28,589	22,871	28,589	5,718	-
Maintenance	3,325	3,325	(66,499)	3,325	36,574	13,300	6,650	-
Material Handling	10,463	3,488	3,488	(69,758)	27,903	13,953	10,463	-
Total	\$ 30,941	\$ 6,813	\$ 3,488	\$ -	\$ 1,743,722	\$ 1,469,619	\$ 745,417	\$ 4,000,000

**Iteration 3**

Department	Service Departments				Operating Departments			Total
	Admin.	Finance	Maintenance	Material Handling	Machining	Assembly	Finish & Packaging	
Department Overhead Costs	\$ 30,941	\$ 6,813	\$ 3,488	\$ -	\$ 1,743,722	\$ 1,469,619	\$ 745,417	\$ 4,000,000
<b>Allocations:</b>								
Administration	(30,941)	6,188	1,547	4,641	4,641	9,283	4,641	-
Finance	1,950	(13,001)	1,300	3,250	2,600	3,251	650	-
Maintenance	317	317	(6,335)	317	3,483	1,267	634	-
Material Handling	1,231	410	410	(8,208)	3,284	1,642	1,231	-
Total	\$ 3,498	\$ 727	\$ 410	\$ -	\$ 1,757,730	\$ 1,485,062	\$ 752,573	\$ 4,000,000

**Iteration 4**

Department	Service Departments				Operating Departments			Total
	Admin.	Finance	Maintenance	Material Handling	Machining	Assembly	Finish & Packaging	
Department Overhead Costs	\$ 3,498	\$ 727	\$ 410	\$ -	\$ 1,757,730	\$ 1,485,062	\$ 752,573	\$ 4,000,000
<b>Allocations:</b>								
Administration	(3,498)	700	175	525	525	1,048	525	-
Finance	214	(1,427)	143	357	285	357	71	-
Maintenance	36	36	(728)	36	401	146	73	-
Material Handling	138	46	46	(918)	366	184	138	-
Total	\$ 388	\$ 82	\$ 46	\$ -	\$ 1,759,307	\$ 1,486,797	\$ 753,380	\$ 4,000,000

**Table 5 - Continued**

**Reciprocal Method**

**Iteration 5**

Department	Service Departments				Operating Departments			Total
	Admin.	Finance	Maintenance	Material Handling	Machining	Assembly	Finish & Packaging	
Department Overhead Costs	\$ 388	\$ 82	\$ 46	\$ -	\$ 1,759,307	\$ 1,486,797	\$ 753,380	\$ 4,000,000
<b>Allocations:</b>								
Administration	(388)	78	19	58	58	117	58	-
Finance	24	(160)	16	40	32	40	8	-
Maintenance	4	4	(81)	4	45	16	8	-
Material Handling	15	5	5	(102)	42	20	15	-
Total	\$ 43	\$ 9	\$ 5	\$ -	\$ 1,759,484	\$ 1,486,990	\$ 753,469	\$ 4,000,000

**Iteration 6**

Department	Service Departments				Operating Departments			Total
	Admin.	Finance	Maintenance	Material Handling	Machining	Assembly	Finish & Packaging	
Department Overhead Costs	\$ 43	\$ 9	\$ 5	\$ -	\$ 1,759,484	\$ 1,486,990	\$ 753,469	\$ 4,000,000
<b>Allocations:</b>								
Administration	(43)	9	2	6	6	14	6	-
Finance	2	(18)	2	4	4	5	1	-
Maintenance	-	-	(9)	-	6	2	1	-
Material Handling	1	1	1	(10)	4	2	1	-
Total	\$ 3	\$ 1	\$ 1	\$ -	\$ 1,759,504	\$ 1,487,013	\$ 753,478	\$ 4,000,000

**Iteration 7**

Department	Service Departments				Operating Departments			Total
	Admin.	Finance	Maintenance	Material Handling	Machining	Assembly	Finish & Packaging	
Department Overhead Costs	\$ 3	\$ 1	\$ 1	\$ -	\$ 1,759,504	\$ 1,487,013	\$ 753,478	\$ 4,000,000
<b>Allocations:</b>								
Administration	(3)	1	-	-	-	2	-	-
Finance	-	(2)	-	1	-	1	-	-
Maintenance	-	-	(1)	-	1	-	-	-
Material Handling	-	-	-	(1)	1	-	-	-
Total	\$ -	\$ -	\$ -	\$ -	\$ 1,759,506	\$ 1,487,016	\$ 753,478	\$ 4,000,000

**USING THE SCHRADER-MALCOM-WILLINGHAM MODEL  
TO EXPLAIN JOURNAL ENTRIES**

**Carl Brewer**

Associate Professor  
Department of Accounting  
College of Business Administration  
Sam Houston State University  
Box 2056  
Huntsville, TX 77341  
(936) 294-1830  
aac\_cwb@shsu.edu

**Elsie C. Ameen**

Associate Professor  
Department of Accounting  
College of Business Administration  
Sam Houston State University  
Box 2056  
Huntsville, TX 77341  
(936) 294-1263  
ElsieAmeen@shsu.edu

**Alice Ketchand**

Professor  
Department of Accounting  
College of Business Administration  
Sam Houston State University  
Box 2056  
Huntsville, TX 77341  
(936) 294-1982  
AKetchand@shsu.edu

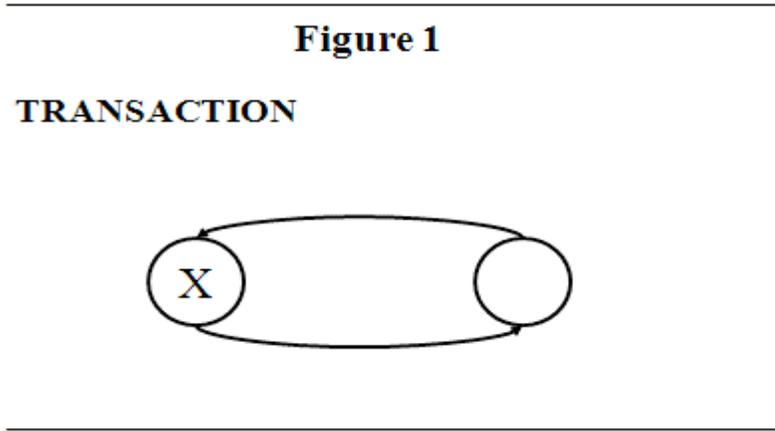
Contact author: Carl Brewer

**USING THE SCHRADER-MALCOM-WILLINGHAM MODEL  
TO EXPLAIN JOURNAL ENTRIES**

Students new to accounting often have great difficulty journalizing transactions. The Schrader-Malcom-Willingham Model provides a simple recording method based on the concept of the transaction itself. Using this method, students should never again have trouble recording transactions, even those not previously encountered. This paper describes the use of the model to teach debits and credits to beginning accounting students.

**THE SCHRADER-MALCOM-WILLINGHAM MODEL**

In this economy, to buy, sell, borrow, lend, or invest, an entity must engage in transactions; see Figure 1.



Transactions are reciprocal, i.e., an entity can buy only if another entity sells. In each transaction, an entity receives something and gives something. The Schrader-Malcom-Willingham Model (see Figure 2) is based on this concept of “transaction.”

---

**Figure 2**

<b>ACCOUNT</b>	<b>TO BE INITIALLY RECORDED, ITEM IS</b>	<b>INITIALLY RECORDED AS</b>
Asset	Received	Dr
Equity [Liab+OE]	Given	Cr
Revenue	Given	Cr
Expense	Received	Dr

---

The model shows that when an item is initially recognized in the accounts the item is either something received or something given, and also whether the item is initially recorded as a debit or as a credit. Note that the term "Equity" refers to both Liabilities and Owner's Equity. Using the model, the student simply identifies the item(s) given and received in each transaction to record the journal entry. As will be demonstrated, the general rule is debit the item(s) received and credit the item(s) given.

**Derivation of the Model**

Figures 3 through 8 explain the derivation of the model. The objective of the analysis is to "prove" by a simple example for each type of account when it is initially recognized in the accounting records whether the item is something received or something given. In general, the figures relate to Entity X and will present each type of account (e.g., asset, liability, etc.); indicate whether the item is received or given when it is initially recorded; illustrate a typical transaction involving the item; and finally show the journal entry for the transaction.

Figure 3 illustrates a typical asset acquisition transaction, i.e., the purchase of a machine for cash. Entity X receives a machine (asset) and gives cash. This demonstrates that an asset (the machine), when initially recognized in the accounts, is something received in a transaction. The journal entry includes a debit to machine and a credit to cash.

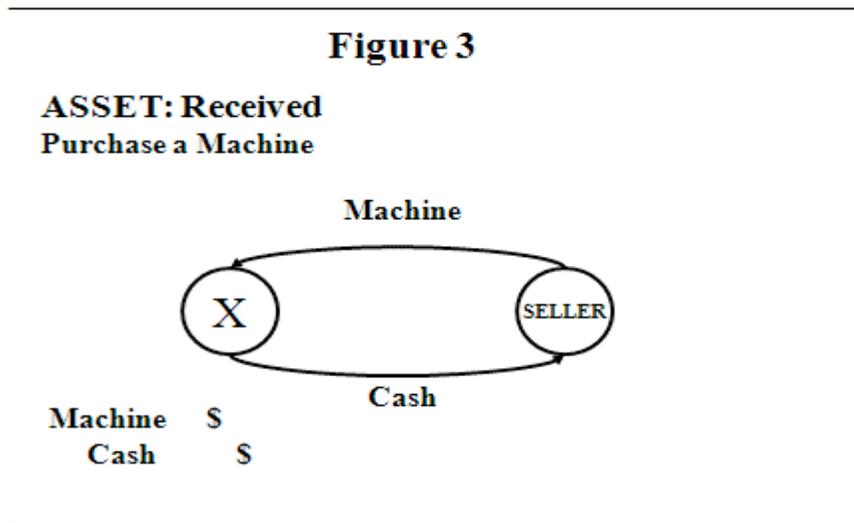
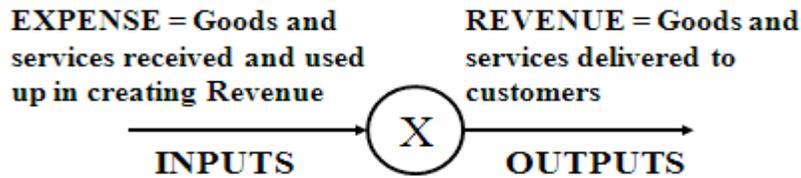


Figure 4 illustrates a typical liability transaction, i.e., borrowing money from a bank. The analysis shows that liabilities are promises given and this liability contains two promises: (1) the promise to repay the amount borrowed, and (2) the promise to pay interest. The entity receives cash (an asset) and gives a note payable (liability). The journal entry consists of a debit to cash and a credit to note payable.



---

**Figure 6**



Firms exist to create outputs. They deliver either goods or services to the output market. This is what accountants mean by the term revenue. Revenue is the output of the firm, i.e., goods and services delivered to customers.

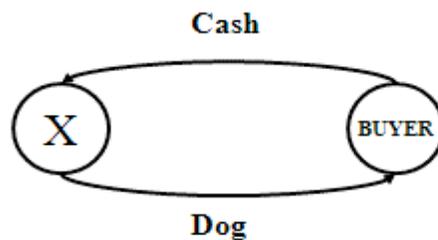
A firm acquires inputs and creates outputs. To create the output, firms must acquire inputs. These inputs are goods and services. Expenses represent goods and services acquired from the input market and used up in creating the output, i.e., revenue. The output (revenues) and the input used up to create the output (expenses) are matched on the income statement. The firm has net income if the revenues exceed the expenses. .

Figure 7 illustrates a typical revenue transaction, i.e., selling a dog.

---

**Figure 7**

**REVENUE: Given**  
**Sell a Dog**



Cash                      \$  
Dog [Dog Sales]        \$

---

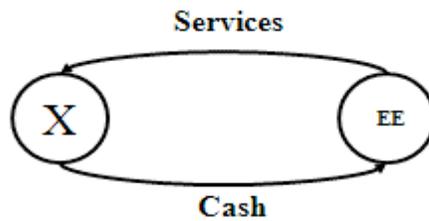
The analysis shows that revenue is something given. Revenue cannot be the cash received from selling the dog. Cash is cash, an asset. Any revenue must be the other item in the transaction, i.e., the dog given to the buyer. The entity receives cash (asset) and gives a dog (revenue). The journal entry will include a debit to cash and a credit to revenue.

Figure 8 illustrates a typical expense transaction, i.e., a company paying an employee for services. The analysis shows that the expense cannot be the cash paid for employee services. Cash is cash, an asset. The expense must be the other item in the transaction, i.e., the employee services received. The journal entry includes a debit to salary expense and a credit to cash.

---

**Figure 8**

**EXPENSE: Received**  
**Pay Employee [EE]**



Salary Expense	S
Cash	S

---

**Allocations - A Caveat**

There is a distinction between goods and services received and used up (i.e., expenses) and those received but not used up. Goods and services received in a transaction can be defined as costs. See Figure 9.

---

**Figure 9**

**COSTS**

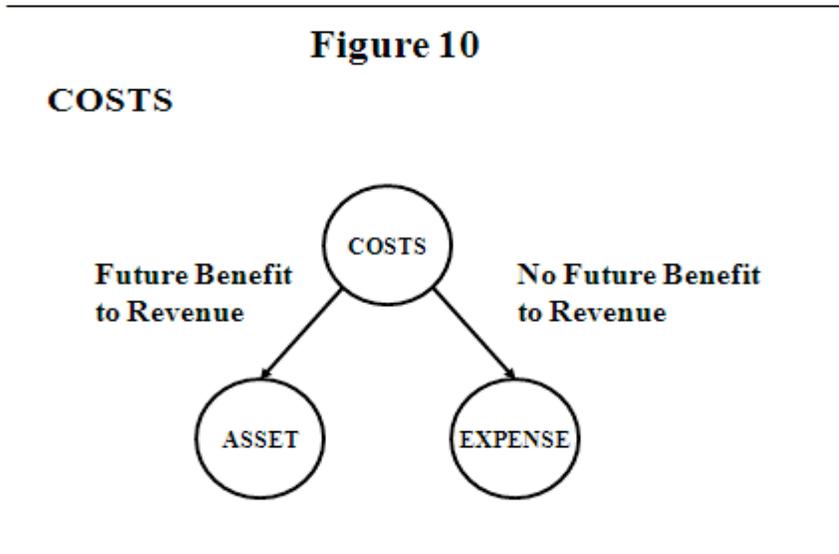


**Costs = Goods and services received  
in a transaction.**

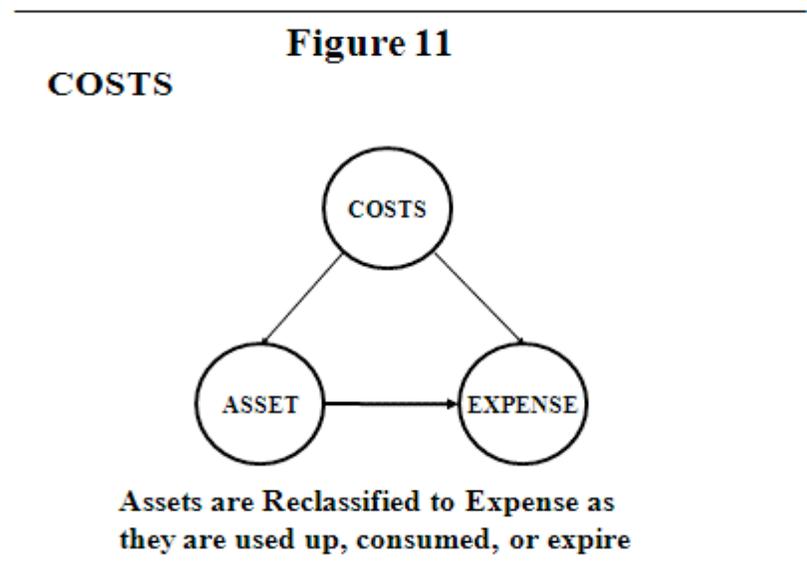
---

As demonstrated in an earlier section of this paper, items received in a transaction are recorded as debits. The issue with costs is which account to debit. This is a fundamental

concept illustrated in Figure 10. If the goods and services received have future benefit to revenue, i.e., if they will generate revenue in the future, then they are recorded (debited) as an asset. If the goods and services received do not have future benefit to revenue, then they are recorded (debited) as an expense.



Goods and services have limited useful lives. They tend to be used up or to expire with the passage of time. When this occurs, they should be reclassified (allocated) from asset to expense as shown in Figure 11. These allocations are also referred to as adjusting entries.



## SUMMARY

Assets are recorded as debits when received and credits when given in a transaction. Equities (liabilities and owner's equity) represent promises given and are recorded as credits when given and as debits when the promise has been fulfilled (i.e., the entity has received a release from the promise to pay). Revenues represent goods and services given [delivered] to customers and are recorded as credits. Expenses are goods and services received and used up in creating [earning] revenue and are recorded as debits.

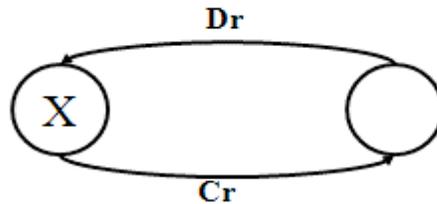
As shown in Figure 12, the Schrader-Malcom-Willingham Model leads to one simple rule for recording transactions: things received are recorded as debits, and things given are recorded as credits.

---

**Figure 12**

**Per the analysis above**

**Recording a transaction reduces to:**



**Any item received is recorded as a Debit.**

**Any item given is recorded as a Credit.**

**To record any transaction, then, identify:**

- \* the consideration received [Dr], and
- \* the consideration given [Cr].

---

Appendix A includes additional examples of transactions and adjusting entries and explains the items received (debited) and given (credited).

## REFERENCES

Schrader, W.J. 1962. An Inductive Approach to Accounting Theory. *Accounting Review* (October), pp 645-649.

Schrader, W.J., R.E. Malcom, and J.J. Willingham. 1970. *Financial Accounting: An Input/Output Approach*. Irwin.

Schrader, W.J., R.E. Malcom, and J.J. Willingham. 1988. A Partitioned Events View of Financial Reporting. *Accounting Horizons* (December), pp 10-20.

## Appendix A

	<b>Transaction (Exchange)</b>	<b>Received (Debit)</b>	<b>Given (Credit)</b>
1	The entity issued stock for cash.	<b>Cash</b>	<b>Common Stock</b> (gave equity in company)
2	The entity bought land and a building by paying cash and signing a mortgage note.	<b>Land</b> <b>Building</b>	<b>Cash</b> <b>Mortgage Note Payable</b> (gave promise to pay)
3	The entity purchased equipment on account, payable in 60 days.	<b>Equipment</b>	<b>Accounts Payable</b> (gave promise to pay)
4	The entity signed a 6-month lease on office space and paid the first 3 months' rent in advance.	<b>Prepaid Rent</b> (received right to use space)	<b>Cash</b>
5	The entity signed a contract allowing a tenant to rent office space for 3 months and received full payment in advance.	<b>Cash</b>	<b>Unearned Rent Fees</b> (gave promise to let tenant use our space)
6	The entity purchased inventory from various suppliers on credit, payable in 30-60 days.	<b>Inventory</b>	<b>Accounts Payable</b> (gave promise to pay)
7	The entity purchased store supplies for cash.	<b>Store Supplies</b>	<b>Cash</b>
8	The entity paid cash for gas for the delivery van.	<b>Fuel Expense</b> (received fuel)	<b>Cash</b>
9	The entity paid for an ad in the local newspaper to appear next week.	<b>Advertising Expense</b> (received promise to perform services)	<b>Cash</b>
10	The entity paid employees for the week.	<b>Salaries Expense</b> (received use of employees' time and skill)	<b>Cash</b>
11	The entity received the electric bill for the month, due by 10 <sup>th</sup> of following month.	<b>Utility Expense</b> (received electricity)	<b>Utility Payable</b> (gave promise to pay)
12	The entity sold inventory for cash and on account.	<b>Cash</b> <b>Accounts Receivable</b> (received	<b>Sales</b> (gave goods to customers)

		promise to pay)	
13	The cost of inventory sold (this is an allocation of cost from asset to expense).	<b>Cost of Goods Sold</b> (cost to the income statement)	<b>Inventory</b> (cost from the balance sheet)

	<b>Adjusting Entries:</b>	<b>Received (debit)</b>	<b>Given (credit)</b>
1	Record the interest on the mortgage note for the month.	<b>Interest Expense</b> (received use of bank's money)	<b>Interest Payable</b> (gave promise to pay)
2	Record the depreciation on store building for month (this is an allocation of cost from asset to expense).	<b>Depreciation Expense</b> (cost to the income statement)	<b>Accumulated Depreciation</b> (cost from the balance sheet)
3	Used the office space for one month. The rent had been paid in advance (this is an allocation of cost from asset to expense).	<b>Rent Expense</b> (cost to the income statement)	<b>Prepaid Rent</b> (cost from the balance sheet)
4	Earned rent revenue for one month. The rent had been received in advance (this is an allocation of revenue from liability (unearned) to revenue (earned)).	<b>Unearned Rent Revenue</b> (revenue (unearned) from the balance sheet)	<b>Rent Revenue</b> (revenue (earned) to the income statement)
5	Owe employees for last week of the month.	<b>Salary Expense</b> (use of their time and skill)	<b>Salary Payable</b> (promise to pay)
6	Took a physical count of store supplies to determine amount on hand at end of month (this is an allocation of cost from asset to expense).	<b>Supplies Expense</b> (cost to income statement)	<b>Office Supplies</b> (cost from balance sheet)
7	Record the interest due on a note receivable for month.	<b>Interest Receivable</b> (received promise to pay us)	<b>Interest Revenue</b> (gave up use of our money)

## Appendix A

	<b>Transaction (Exchange)</b>	<b>Received (Debit)</b>	<b>Given (Credit)</b>
1	The entity issued stock for cash.	<b>Cash</b>	<b>Common Stock</b> (gave equity in company)
2	The entity bought land and a building by paying cash and signing a mortgage note.	<b>Land</b> <b>Building</b>	<b>Cash</b> <b>Mortgage Note Payable</b> (gave promise to pay)
3	The entity purchased equipment on account, payable in 60 days.	<b>Equipment</b>	<b>Accounts Payable</b> (gave promise to pay)
4	The entity signed a 6-month lease on office space and paid the first 3 months' rent in advance.	<b>Prepaid Rent</b> (received right to use space)	<b>Cash</b>
5	The entity signed a contract allowing a tenant to rent office space for 3 months and received full payment in advance.	<b>Cash</b>	<b>Unearned Rent Fees</b> (gave promise to let tenant use our space)
6	The entity purchased inventory from various suppliers on credit, payable in 30-60 days.	<b>Inventory</b>	<b>Accounts Payable</b> (gave promise to pay)
7	The entity purchased store supplies for cash.	<b>Store Supplies</b>	<b>Cash</b>
8	The entity paid cash for gas for the delivery van.	<b>Fuel Expense</b> (received fuel)	<b>Cash</b>
9	The entity paid for an ad in the local newspaper to appear next week.	<b>Advertising Expense</b> (received promise to perform services)	<b>Cash</b>
10	The entity paid employees for the week.	<b>Salaries Expense</b> (received use of employees' time and skill)	<b>Cash</b>
11	The entity received the electric bill for the month, due by 10 <sup>th</sup> of following month.	<b>Utility Expense</b> (received electricity)	<b>Utility Payable</b> (gave promise to pay)
12	The entity sold inventory for cash and on account.	<b>Cash</b> <b>Accounts Receivable</b> (received	<b>Sales</b> (gave goods to customers)

		promise to pay)	
13	The cost of inventory sold (this is an allocation of cost from asset to expense).	<b>Cost of Goods Sold</b> (cost to the income statement)	<b>Inventory</b> (cost from the balance sheet)

	<b>Adjusting Entries:</b>	<b>Received (debit)</b>	<b>Given (credit)</b>
1	Record the interest on the mortgage note for the month.	<b>Interest Expense</b> (received use of bank's money)	<b>Interest Payable</b> (gave promise to pay)
2	Record the depreciation on store building for month (this is an allocation of cost from asset to expense).	<b>Depreciation Expense</b> (cost to the income statement)	<b>Accumulated Depreciation</b> (cost from the balance sheet)
3	Used the office space for one month. The rent had been paid in advance (this is an allocation of cost from asset to expense).	<b>Rent Expense</b> (cost to the income statement)	<b>Prepaid Rent</b> (cost from the balance sheet)
4	Earned rent revenue for one month. The rent had been received in advance (this is an allocation of revenue from liability (unearned) to revenue (earned)).	<b>Unearned Rent Revenue</b> (revenue (unearned) from the balance sheet)	<b>Rent Revenue</b> (revenue (earned) to the income statement)
5	Owe employees for last week of the month.	<b>Salary Expense</b> (use of their time and skill)	<b>Salary Payable</b> (promise to pay)
6	Took a physical count of store supplies to determine amount on hand at end of month (this is an allocation of cost from asset to expense).	<b>Supplies Expense</b> (cost to income statement)	<b>Office Supplies</b> (cost from balance sheet)
7	Record the interest due on a note receivable for month.	<b>Interest Receivable</b> (received promise to pay us)	<b>Interest Revenue</b> (gave up use of our money)