Integrated Accounting Principles:

A New Approach to the Traditional Accounting Principles Courses

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Dr. Young has held tax positions in both public accounting and private industry, working primarily on tax compliance and tax planning engagements for individuals, corporations, and pass-through entities. She teaches accounting principles, tax courses and financial accounting theory. Her research interests include individual income tax policy and tax audit issues. She received her undergraduate and master's degrees from the University of Alabama and her doctorate in accounting from the University of Mississippi with minor field concentrations in taxation and economics.

Abstract

This paper will describe an Integrated Accounting Principles course that is an alternative to traditional principles courses. The Integrated Accounting Principles course combines the traditional financial and managerial accounting courses into a single six hour course. The course includes the same content as the traditional sequence but the topics are arranged to better reflect the role of accounting within an organization. The course begins with breakeven analysis, budgeting and the development of a business plan and then progresses into the creation of an accounting system. The system is presented as the basis for tracking actual business transactions, producing financial statements, analyzing budget-to-actual variances, and creating the next period's budget. This process is demonstrated for service, merchandising and manufacturing companies. The Integrated course not only includes an alternative arrangement of topics but also includes assignments designed to help students develop critical thinking, communication, and problem solving skills. The assignments include: the preparation of a business plan, Monopoly projects to demonstrate budgeting and the creation of an accounting system, a financial statement analysis project, essays connecting current business events to the course content, a Tinker Toy exercise to demonstrate product costing, and "challenge problems" on each exam.

Learning Objectives

The Integrated Accounting Principles course is an introduction to financial and managerial accounting concepts. The course emphasizes the role of accounting in a business organization. Accordingly, the course content is designed to achieve the following knowledge, technology, decision-making and communication objectives:

Knowledge

- Develop a business plan
- Describe how managers and investors use accounting information to make business decisions
- Prepare financial statements and perform ratio analysis to evaluate company performance
- Classify cost behavior and perform breakeven analysis
- Prepare budgets for service companies, merchandising firms, and manufacturers
- Describe the concepts of internal control and corporate governance
- Describe cost behavior and perform breakeven analysis with single products and multiple products
- Calculate product cost
- Identify relevant costs and revenues for common business decisions

Technology

- Develop a master budget using Excel
- Use an Excel spreadsheet as the organizing tool for the creation of an accounting system
- Access financial information via the Internet

Decision-Making

- Apply accounting concepts to new, unfamiliar business problems
- Connect business transactions to their reported effect in the financial statements
- Compare actual performance to budgets to evaluate organization performance

Communication

- Complete written assignments that connect accounting concepts to current events in business
- Write a business plan

Core Competencies Addressed

1) The Broad Business Perspective Competency of Strategic/Critical Thinking

2) The Functional Competency of Measurement

3) The Functional Competency of Reporting

4) The Personal Competency of Communication

5) The Personal Competency of Problem Solving and Decision Making

Detailed Description of the Case/Activity

The creation of the Integrated Accounting Principles course was inspired by assessment results. Prior to the adoption of the Integrated Accounting Principles course, the business core curriculum included traditional accounting principles offerings: a first course in financial accounting that emphasized preparing financial statements and recording transactions in an accounting system using debits and credits and a second course in managerial accounting that emphasized budgeting, planning and decision-making. All business majors (accounting and non-accounting) were required to take the accounting principles courses. The assessment results included evidence that the traditional principles courses adequately prepared accounting majors for their upper division accounting courses; however, the first principles course discouraged non-accounting majors from a further study of accounting because the topics seemed irrelevant to their future career plans. Consequently, a significant number of non-accounting majors who took the first principles course in their freshman or sophomore years waited until their senior year to take the second principles course. As the first course in financial accounting was a pre-requisite for the second course in managerial accounting, putting multiple semesters between the two courses greatly devalued the pre-requisite requirement. The challenge presented by the findings of the assessment was to re-design the accounting principles offerings in a manner that would preserve the positive aspects of the courses while also addressing the weaknesses. The solution was the creation of a single six-hour Integrated Accounting Principles course that includes a new sequencing of the course content, class requirements that emphasize the relevance of accounting information for decision-making, and an experiential learning pedagogy.

As the assessment did not identify weaknesses in the preparation of accounting majors, an important element of the re-design was to preserve the content of the traditional principles courses so that accounting majors would continue to be exposed to the pre-requisite knowledge needed for the upper division accounting courses. Therefore, the six hour Integrated Accounting Principles course includes all of the topics included in the traditional financial and managerial courses. However, one of the weaknesses of the first course in the traditional sequence was that the content seemed irrelevant to non-accounting majors, and the course did not encourage their continued study of accounting. It is easy to dismiss this reaction from non-accounting majors with a simple interpretation that accounting is not for everyone. But, the danger in accepting this view is that it stifles creativity and provides an excuse for continuing to offer a course that does not demonstrate the relevance of accounting to future business professionals. An alternative interpretation is that there is problem with the content of the first accounting principles course that needs addressing.

The traditional first principles course in financial accounting began with the creation of an accounting system and recording transactions using debits and credits. While this is the generally accepted method of teaching principles of accounting, it does not mirror the way that accountants interact with their clients. That is, if a new client approached an accountant for advice in forming a new business, the accountant's first conversation would not be about debits and credits. Rather, the accountant would likely start by helping the new client develop a business plan and a budget for the new business venture. The creation of an accounting system would not be necessary until the business plan is implemented, and its purpose would be to help the business manager track how closely the actual results of the business are to the expectations outlined in the budget. By starting the first principles course with a conversation about debits and credits, the implicit message is that mastery of debits and credits is the most important element of accounting and the gateway to understanding all subsequent accounting concepts. This premise is false. The primary purpose of accounting is gathering financial information to improve decision-making and the principles courses should model this for all business students.

Accounting and non-accounting majors bring an intuition about business into their first accounting class; and, the Integrated Accounting Principles course attempts to appeal to the students' intuition by continually emphasizing the relevance of accounting information for addressing common business issues. The textbook for this course, *Accounting: Information for Business Decisions* (Cunningham, Nikolai, and Bazley, Updated 2e, Thomson, 2007), supports this approach. This textbook is thorough and easy to read. In addition, the chapters include many helpful illustrations and there are multiple practice problems at the end of each chapter. The starting point for the semester is a discussion of the creation of a new business. The material for the first exam includes the development of a business plan, cost-volume-profit analysis, the preparation of a budget for service and retail businesses, a discussion of the different legal forms of business, and an explanation of the four financial statements. Throughout the discussion of these topics the students are challenged to consider what information would be needed to resolve common business dilemmas, such as determining a sales price for a product, managing the trade-offs of offering credit to customers, and determining the wage and benefit amounts for employees. Therefore, students discover the relevance of accounting through resolving these dilemmas. In addition, budgets are presented as the organizing tool for the strategy of the company, and students learn to evaluate business decisions through the lens of the budget.

This theme is continued throughout the semester. The material for the second exam includes the creation of an accounting system. Unlike the traditional financial accounting course, the emphasis is not on the mastery of debits and credits at this point in the semester. Rather, the accounting system is created using an Excel spreadsheet with each column representing an account. Double-entry is accounting is illustrated by recording transactions with increases or decreases to the accounts (columns). The column totals represent ending account balances and these balances are then used to prepare the four financial statements. In the traditional financial accounting principles course, the accounting cycle was presented as the process of preparing financial statements, and the steps of the cycle began with recording transactions and ended with closing the books. However, this presentation implies that the preparation of financial statements is independent of the goals managers articulated in the budget. In the Integrated Accounting Principles course, the preparation of financial statements is presented as an integral part of the budgeting process; that is, the purpose of the monthly financial statements is to track how closely actual results are to the expectations presented in the budget. Further, the end of the accounting cycle is not the preparation of a post-closing trial balance; rather, it is the calculation actual-to-budget variances. As students have already been tested on budgeting concepts, the accounting cycle can be presented as it is in a business; that is, the process by which mangers: plan-manage-record-analyze-plan.

The focus of the material for the first two exams is accounting concepts related to service and retail businesses. The material for the third and fourth exams illustrates the same concepts for manufacturing businesses. In this part of the semester, the students take familiar concepts from the material from the first two exams and extend them to a new business setting. In addition, this is an opportunity for students to use the feedback from the first part of the semester to correct the mistakes in their understanding of these concepts. The topics for the third exam include the preparation of a master budget, calculating the breakeven point with multiple products, recording transactions using job order costing, and calculating cost of goods sold and ending inventory using various inventory cost flow assumptions. The topics for the fourth exam include using relevant costing for decision-making, applying standard costing concepts for calculating variances, and recording and analyzing transactions involving property, plant and equipment and stockholders’ equity.

The last exam of the semester before the comprehensive final exam is the debit-credit exam. The formal process of recording transactions is important pre-requisite knowledge for accounting majors to take into their upper division accounting courses, and it is important business language that non-accounting majors need to know. In creating the Integrated Accounting Principles course, the goal was not to remove debits and credits from the course, but rather to give this material its proper place and emphasis. The benefit of teaching this material at the end of the course is that students have already mastered recording transactions using an Excel spreadsheet and they have seen how the preparation of financial statements facilitates management decisions. With this context, the formal process of recording transactions is a minor adjustment to an accounting system with which they are already familiar. The debit-credit exam is a full practice set in which students record journal entries into a general journal, post the entries to a general ledger, prepare a trial balance, record adjusting entries in the general journal, post them to the general ledger, prepare an adjusted trial balance, prepare the four financial statements, prepare closing journal entries, post the entries to the general ledger, and prepare a post-closing trial balance. The average score on this exam is typically higher than any other exam for the semester. In addition, the average score of Integrated Accounting Principles students is higher than the average score of Traditional Accounting Principles students who took the same exam.

The integration of financial and managerial accounting topics throughout the semester not only makes the presentation of the accounting material more logical in its progression, but it also breaks down the false barrier that exists between external and internal reporting in the traditional principles courses. In the traditional courses, the financial accounting topics are presented as distinct from managerial accounting topics and the connection between the two areas of accounting is not explicit. But, in a business environment, budgeting and financial reporting are interdependent and the budgeting process precedes financial reporting. Therefore, the benefit of re-arranging the topics in the Integrated Accounting Principles course is that financial and managerial accounting topics are presented in the manner and order that they are used in the business world. By the end of the semester, the relevance of accounting information for business decisions is clear and students describe an accounting cycle that is indistinguishable from the operations of a business.

To enhance the learning environment and remove the possibility that students may delay taking the second course in accounting, the traditional, two-course sequence in accounting principles was replaced with a single six hour course. The Integrated Accounting Principles course is offered in two-day per week or three-day per week sections. A section offered on Tuesdays and Thursdays would meet for two hours and forty-five minutes twice a week (e.g., 9:30am-12:15pm on Tuesdays and Thursdays). A section offered on Mondays, Wednesdays, and Fridays would meet for one-hour and fifty minutes three days per week (e.g., 8:00-9:50am on Mondays, Wednesdays, and Fridays). This super-sized time period improves efficiency because there is more time to fully develop a concept and there is less class time devoted to a review of the material from the prior class meeting. For example, if two class meetings were devoted to a discussion of depreciation methods in the traditional principles class, the first five-ten minutes of the second class meeting would be a review of the concepts discussed in the first class meeting. In the Integrated course, the same material can be covered in one class meeting, often with more depth, because the five-ten minutes of review used in the traditional course is not necessary.

The longer class meeting also provides an opportunity for in-class experiential learning exercises to illustrate the course content. Experiential learning exercises, along with other course requirements, were intentionally designed to emphasize the development of communication, critical thinking, and problem-solving skills that are necessary to build a successful business career. Examples of these course requirements and in-class experiences are presented below.

The First Day of Class

After a brief introduction to the course and an overview of the syllabus, students are asked to take out a piece of paper. For the next twenty minutes the students watch an excerpt from a documentary about the development of a business. There are many news stories and documentaries available to use for this exercise; however, a good example is an excerpt from the CNBC series *American Made* that chronicles the history of Starbucks through interviews with the company's CEO, Howard Schultz. While watching the excerpt, the students are asked to make the following lists: 1) a list of business decisions that has confronted the management of Starbucks, 2) a list of factors that have contributed to the success of Starbucks, 3) a list of qualities that have contributed to the success of Howard Schultz, and 4) a list of unfamiliar business terms. At the end of the video, the students are asked to share the items from their lists. For each of the business decisions, the students are asked to identify the information they would need to make that decision. Their wish list for information always includes accounting information, and this discussion sets the stage for the consistent demonstration of the relevance of accounting to business decisions that will occur throughout the semester. The students' exploration of the company's success factors appeals to their intuition and interest in business. The qualities that they identify that have led to Howard Schultz's success provide a basis for a discussion of what it will take to be successful in the class. The final list, the list of unfamiliar terms, is intended to pique the students' interest in learning more about business and accounting. Some of the terms on the students' lists can be explained on the first day. Other more complicated terms will be explained later in the semester, in the context of a chapter discussion of related material. Following the discussion of the lists, the students are introduced to a semester-long assignment entitled the "*Business Week* Link."

Business Week Links - Weekly Essays Connecting Business Events to the Course Content

Regardless of a student's career plans, staying current with developments in the business community is a requirement for building a successful career. Indeed, in the Starbucks' *American Made* video, Howard Schultz says that he begins each day by reading three newspapers. To help students develop the habit of reading the current business press, a course requirement is to complete ten "*Business Week* Links." Each link is an essay that connects one article from the week's edition to the course material. To illustrate this assignment, students are given recent editions of *Business Week* and are asked to find an article that is related to the discussion of the Starbucks video. (Alternatively, students can access *Business Week* online via the library's subscription.) The assignment for the second class meeting is to complete their first *Business Week* Link essay.

The essay requirements are designed not only to build critical thinking and communication skills but also to encourage students to continue to discover the relevance of accounting to business decisions. The essays must be 200-300 words in length. To receive full credit the essay must be free of typos and grammatical errors, and the essay must explicitly link the content of the article to the content of the class. The format for the essay is a very brief summary of the article followed by a detailed description of how the content of the article relates to the course material. No credit is awarded if the entire essay is a mere summary of an article. Rather, the essay must include a valid link to the course material. The first *Business Week* Link is due the second day of class, but the due dates for the remaining nine essays are spread throughout the semester. On these due dates, a portion of the class period is devoted to a discussion of the content of their essays. Students may only draw one link from each weekly edition of the magazine. That is, students may not turn in two (or more) essays for the same edition of *Business Week*.

This assignment could be structured using any business publication. *Business Week* was chosen for the Integrated Principles course because the articles are relatively short and easy to understand. Each essay is worth 10 points and is graded using the following scale:

> 10/10 points - the essay fully meets the requirements and is free of grammatical mistakes.
>
> 7/10 points - the essay meets most of the requirements and/or includes minor grammatical mistakes.
>
> 3/10 points - the essay is a reasonable attempt but fails to meet the requirements and/or includes multiple grammatical mistakes.
>
> 0/10 - the essay merely summarizes the article and fails to link the article material to the course material, or the essay was submitted after the beginning of class on the due date.

Business Plan Assignment

To illustrate the material from the first exam, students are required to prepare a business plan for a retail cookie business. The purpose of this assignment is to simulate the process that an entrepreneur would complete to launch a new merchandising business venture. In this project, students develop a business plan including four sections: 1) a description of the company, 2) a marketing plan, 3) a description of operations, and 4) a financial plan. The students are given an Excel spreadsheet template for the financial plan that includes an assumptions page, blank budgets (sales, purchases, operating expenses, and cash), and a blank projected income statement. To prepare the financial plan, the students complete the budgets and projected income statement by writing Excel formulas based on the amounts included in the assumptions page. To ensure that each student's plan is unique, key assumptions are tied to the student's university identification number. A key requirement of the assignment is that the projected income statement included in the business plan must show a profit, so the students have to engage in what-if analysis to make their assumptions result in a profitable plan. In addition, the students must use their projected income statement to calculate the breakeven point for their new business venture. This assignment encourages the development of problem-solving skills using Excel spreadsheets.

Monopoly Projects

The focus of the material for the second exam is the preparation of financial statements. To illustrate the process of the creation of an accounting system for a new business, Knechel's (1989) Monopoly exercise was adapted to the course material. In this exercise, the students play two rounds of the board game Monopoly in class. In the first round the students create an Excel spreadsheet to record the business transactions created for the first accounting period for a rental real estate business. At the end of the first round, the students are asked to prepare financial statements for the first accounting period and to use their experience during the first round to prepare a budget for the second accounting period. A couple of weeks after the first round, the students play the second round of Monopoly. This round is a continuation of the first round, and all properties purchased during the first round carry over to the second round. In addition, the students have received their graded assignments from the first round. The requirements for the second round include: closing the books from the first round, recording the business transactions from the second round (the second accounting period), preparing financial statements for the second accounting period, and preparing an actual-to-budget variance report for the second accounting period. The purpose of the Monopoly projects is to demonstrate an accounting cycle where business managers: plan-manage-report-analyze-plan. The two rounds of the Monopoly assignment encourage the development of the functional competency of reporting and problem-solving skills using Excel spreadsheets.

Treasure Hunt

The material from the first exam includes an introduction to financial statements. In the second week of class, the students are given an in-class Treasure Hunt assignment. In this assignment, students are asked to locate key financial information in the annual report of a publicly-traded company. For this exercise, students have access to the Internet using laptops (their own or one from the computer lab). This exercise teaches students how to access financial information on the websites of publicly-traded companies, and demonstrates the context in which financial statements are reported. In some semesters, the Starbucks annual report is used for the Treasure Hunt as a continuation of the first day's discussion. In this exercise, the students locate the following information in an annual report: a description of the business, the company's risk factors, the company's legal proceedings, the elements of the four financial statements, the notes to the financial statements, the company's high and low stock price during the past twelve months, and the executive compensation disclosure. The assignment is used in conjunction with the presentation of the basic formulas and elements of the four financial statements. Therefore, it encourages the development of the functional competency of reporting.

Financial Statement Analysis Project

To reinforce the material from the Treasure Hunt activity, the students are assigned a financial statement analysis project as part of the material for the second exam. The purpose of this project is to apply the financial accounting course material to the financial statement disclosures of two publicly-traded companies, and use the information to evaluate their operating results. In the project, students identify the similarities and differences between the two companies revealed in the financial statements and the related disclosures, locate key financial information in the two sets of financial statements, and perform ratio analysis to compare the operations of the two companies. This project reinforces the functional competency of reporting and encourages the development of critical thinking skills.

Tinker Toy Exercise

In the material for the third exam, students are introduced to manufacturing concepts. As most students have never observed manufacturing operations, the accounting concepts for manufacturing ventures can often be too abstract for students. The purpose of this exercise is to demonstrate a manufacturing process using Tinker Toys. Students are divided into teams of four and are given a prototype and a cost sheet for a motorcycle. The direct materials to manufacture the motorcycle are in bins placed in various locations around the classroom. Each team member has a unique role to play in the exercise. One member is responsible for the transportation of direct materials to the assembly line and the delivery of finished goods to the customer, another member is responsible for the assembly of the motorcycles, another member is responsible for inspection of the finished goods, and the fourth member is the timekeeper for direct labor and transportation. The exercise is divided into two, twenty minute production runs, and the teams are challenged to make as many motorcycles as they can during each production run. Every ten minutes during the production runs, the team members must switch roles, so that by the end of the second run, each of the four team members has performed each role. At the end of the first production run, the teams complete their cost sheet and calculate their cost per motorcycle. In the first run, the teams only have information regarding direct materials and direct labor. Each team reports its cost per motorcycle to the class, and these amounts are written on the board. These results provide the basis for investigating the cost differences among the teams in the motorcycle manufacturing industry. At the end of this discussion, the teams are given information about overhead costs for the manufacturing plant and are challenged to develop a method for allocating overhead to the motorcycles for the purpose of determining an accurate price to charge the customer. This exercise precedes the class discussion of overhead allocation so the students must use their intuition to solve this dilemma. Once the teams formulate their overhead allocation method, then the teams complete the second twenty-minute production run. At the end of the run, the teams once again calculate their product cost. In this run, the product cost is the sum of direct materials, direct labor, and allocated factory overhead. Following the second production run, the new industry cost amounts are reported and analyzed by the class. Even if the teams do not formulate a valid overhead allocation method, this exercise illuminates the need for a pre-determined overhead rate and provides a good introduction to this course material. In addition, this exercise encourages the development of critical thinking and problem-solving skills.

Master Budget and Decision-Making Project

In conjunction with the material for the third exam, the students are given a master budget project for a new manufacturing venture. This project is a continuation of the business plan assignment, and the context is that the business plan must be altered to consider the viability of making cookies instead of buying cookies for resale. The students are given an Excel spreadsheet template that includes an assumption page, and blank worksheets for: a sales budget, a production budget, a direct materials budget, a direct labor budget, variable and fixed overhead budgets, variable and fixed selling expense budgets, a general and administrative expense budget, a cash budget, and a projected income statement. Similar to business plan assignment, the students must complete the template by writing formulas in Excel that are tied to the assumptions page and some of the key assumptions are tied to their university student identification number. At the end of the assignment, the students must determine if it is more cost effective to make or buy the cookies. This assignment encourages the development of the functional competency of measurement and problem-solving skills using an Excel spreadsheet.

The Challenge Problem

The Challenge Problem was developed to make the best use of the class period for the exams in the Integrated Accounting Principles course. As the class period is twice the normal length of a traditional class period and the students are primarily freshmen and sophomores, it was not practical to give a traditional exam that would last the entire class period. Alternatively, if only half of the class period were devoted to an exam, then the other half of the class period might not be productive. That is, if the exam were scheduled for the first part of class, the students would not be sharp and alert for new material presented in the second part of class. If the exam were scheduled for the second part of class, the students would not be attentive to the material presented in the first part of class because they would be focused on preparing for the exam.

The remedy for structuring the exams in the super-sized Integrated Accounting Principles course was to divide the exam into two parts. The first part of the exam has a traditional format with multiple choice questions and problems from the chapter readings and lectures. This part of the exam is timed and the questions are focused on the student's basic knowledge of the course material. The first part of the exam represents 100 points out of the 125 total possible points for each exam. All students complete the first part of the exam before the second part begins; and there is a 10-15 minute break scheduled between the first and second parts of the exam. The remaining 25 points of the exam are devoted to "The Challenge Problem." As the name implies, the Challenge Problem is harder than the questions included on the first part of the exam; and, it is designed to test the student's ability to apply the material from the first part of the exam to a new, unfamiliar problem. Each Challenge Problem represents a common, real world, business application for the material included on the first part of the exam. The students have not seen the Challenge Problem, or an example like it, prior to the exam. Therefore, they must employ critical thinking skills to formulate a solution to the problem.

Conclusion

The Integrated Accounting Principles course was implemented three years ago and has been included in the business core curriculum for six semesters. The creation of the Integrated Accounting Principles course was inspired by the weaknesses illuminated in assessment results of the traditional accounting principles courses. The most challenging element of the project to re-design the traditional principles courses was to preserve their positive aspects of while also addressing their weaknesses. The solution was the creation of a single six-hour Integrated Accounting Principles course that included a new sequencing of the course content, class requirements that emphasize the relevance of accounting information for decision-making, and an experiential learning pedagogy.

The preliminary assessment results of the Integrated Accounting Principles course are encouraging. First, there is no statistically significant difference in the performance of accounting majors in the first Intermediate Accounting course. That is, accounting majors who took the Integrated Accounting Principles course performed as well as accounting majors who took the traditional accounting principles courses. This indicates the Integrated Accounting Principles course adequately prepared accounting majors for their first upper division accounting course; and, as a pre-requisite, is equivalent to the traditional accounting principles courses. Second, the implementation of the Integrated Accounting Principles course seems to have improved the learning experience for non-accounting majors. An essay question included on the comprehensive final exam asked students to describe what they learned from the Integrated Accounting Principles course. An analysis of the responses of non-accounting majors to this question revealed the following composite "lessons learned" by a majority of non-accounting majors:

- Every business should have a budget so that the managers think through the month before it happens.
- Financial statements are prepared so that managers can judge how well they are doing and can plan for the next month.
- A crucial part of creating an accounting system is to establish internal control policies that will minimize the chance that fraud will occur.
- Business managers must rely on accounting information to make almost all of their decisions.
- Business managers actually use the same things that I learned in this class; now I can understand their language.

The non-accounting majors' statements of lessons-learned provide evidence that many of the Integrated Accounting Principles course objectives (presented on page 3) have been met.

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