

# Developments in Business Simulation & Experiential Learning, Volume 27, 2000

## EXERCISE: PREPARING FINANCIAL REPORTS USING THE GROUP CATEGORIZING TECHNIQUE

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### ABSTRACT

Guided by this year's theme, ABSEL 2000: Learning in and for the Future, this paper describes an exercise that can be used to teach students the nature of financial statements. Working in groups, students sort and assemble financial information from a small business into basic financial reports. Although the example used in this paper is accounting-based, the technique discussed in this paper can be applied to most business disciplines where students need to develop the ability to organize and analyze a complex set of information. It can be adapted to many college courses to enhance the learning experience.

### INTRODUCTION

With the expansion of technology, information can be amassed from a vast variety of sources. One of the challenges that will face students in the work place during the 21st century is learning how to handle information overload. Theoretical frameworks provide guidelines for determining the nature and treatment of information. Teachers must provide students with opportunities to develop skill in applying theory to practical situations.

Increasingly, advocates for change in higher education such as the Change Commission of the American Institute of Certified Public Accountants have advocated not only a change in course content, but also a change in the methods that instructors use to teach course materials.

“To become successful professionals, accounting graduates must possess communication skills, intellectual skills, and interpersonal skills. Communication skills include both receiving and

transmitting information and concepts, including effective reading, listening, writing, and speaking. Intellectual skills include the ability to locate, obtain and organize information and the ability to identify and solve unstructured problems in unfamiliar settings, and to exercise judgment based on comprehension of an unfocused set of facts. Interpersonal skills include the ability to work effectively in groups and to provide leadership when appropriate.” (Source: Accounting Education Change Commission and American Accounting Association, <http://206.170.119.32/pubs/position/position1.htm>).

Working in groups, using business simulation techniques is an instructional method that can encourage students to develop communication, intellectual, and interpersonal skill.

### THE EXERCISE

#### Purpose and Objectives

The objectives of this exercise are as follows:

1. To acquaint students with some of the information that goes into designing a set of financial statements.
2. To provide students with experience working with their colleagues on a team basis, as actually is done when working for most companies.
3. To build upon critical thinking skills by analyzing and evaluating accounting information.
4. To familiarize students with basic accounting concepts from accounting's Conceptual Framework.

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5. To provide students with an experience in applying the Conceptual Framework to a realistic situation encountered in practice.
6. To enhance writing skills by writing a cover letter to accompany the financial statements. (optional)

### Design and Procedures

At the beginning of class students are divided into groups of two to four individuals and asked to complete an assignment which is due at the beginning of the next class period (or at the end of the current class if objective 6 is omitted). The assignment consists of four parts, two of which are optional. First (optional), the instructor asks groups to write down definitions for an asset, a liability, owners' equity, revenues and expenses. Second (optional), the instructor asks students to list what sorts of accounts might exist in the chart of accounts for a company that produces redwood furniture. Third, the instructor distributes to each group one packet of "receipts" (cut up strips of paper containing one item of financial information-See Appendix B) and a set of instructions for completing the assignment. Students are then asked to sort and categorize the "receipts" in the packet into the following categories:

Balance Sheet Items- Assets; Liabilities;  
Owner's Equity

Income Statement Items-Revenues; Cost of Goods Manufactured; Operating Expenses; Selling Expenses

Fourth, students are asked to make several calculations:

1. Compute Cost of Good Manufactured assuming that there were no beginning inventories of any sort and that there was no work remaining in process at the end of the year.
2. Prepare a balance sheet and an income statement for Redwood Works. Compute Cheng Sun's equity in Redwood Works in order to complete the balance sheet.

### Debriefing the Exercise

After teams have completed their computations, the exercise is debriefed by the instructor. The debriefing centers on developing answers to the questions posed earlier to the students:

1. What is the definition of an "asset," a "liability," "owners' equity," "revenues" and "expenses." What strategies are most successful for identifying each of these?
2. What accounts were particularly hard to classify because they could easily fit into more than once category? Which accounts were easy to classify?
3. What are the firm's Current assets? Long term assets? Liabilities? Owner's equity? Revenues? Cost of goods manufactured? Operating expenses? Selling expenses?
4. What problems did you experience working as a team? Would you have been more successful in completing the exercise by working alone? Why?

### DISCUSSION

This exercise and variations on it have been used successfully in several courses. More recently, this exercise was used in a sophomore/junior intermediate accounting class during the third week of class to review a chapter on financial statements. To be successful in completing this exercise, students need to have completed a beginning course in accounting principles that includes a segment on accounting for manufacturing. Completing this assignment does not, however, require that student have more than a basic knowledge of production costs.

This exercise is designed to be completed within a 50 minute time period. Allotting forty minutes for groups to complete their calculations should be sufficient for most classes. The debriefing part of the exercise should be allocated the remaining class time.

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Students generally enjoy this hands-on exercise. During a recent session, most students participated with enthusiasm and were completely engaged in sharing their thoughts and taking part in finding a solution. Students discussed their process for categorizing the information and developed separate strategies for dealing with items that were easily identified as opposed to those that presented more difficulty. At the end of this session, several groups asked to be allowed to take the materials home with them for further work.

The success of this exercise is based on how carefully students consider the issues involved in distinguishing between the various components of financial statements. Importantly, debriefing by the instructor reinforces the concepts that have been refined through application in the exercise. However, even if some of the teams are ineffective, the exercise can still be beneficial in helping them develop an appreciation for the complexity of organizing financial information.

### **GROUP CATEGORIZING TECHNIQUE**

This exercise is representative of a technique that for lack of a better name we refer to as the "group categorizing technique." This name is used because the essential feature is give students unorganized bits of information and ask them to organize them into categories and to solve a specific problem or answer questions based on the categorized information.

Any course that contains categories of information can make use of this approach, not just accounting and finance courses. For example, in organizational behavior courses, motivation theories are often grouped into two categories: process and content theories. Here, a professor could give student groups pieces of paper, each containing the name of one theory, and ask them to categorize them. Students could be asked to justify their choices.

From an educational perspective, in order to categorize any piece of information, one must

understand the precise nature of the category itself and all the items that fall within the category. Superficial knowledge won't suffice. To illustrate, an accounting student can't determine if "accounts receivable" are "current assets" or "liabilities" without knowledge of all of these. A student taking an Organizational Behavior course can't determine if Maslow's Hierarchy of Needs theory is a "content" or "process" theory without understanding both.

Categorizing helps to develop a student's intellectual skills because they must obtain and organize the information and exercise judgement. To the extent that the exercise asks students to go beyond categorizing items by requiring that they solve a problem, as in the exercise described above where students needed to determine owner's equity by adding and subtracting numbers, students develop problem solving skills.

Asking students to sort and categorize information specifically in groups helps them to develop better communication and interpersonal skills. They must read each item carefully, speak to others about it, listen to what others say, and reach a consensus. They need to focus on how their behavior is affecting others and when it is appropriate to assume group leadership.

### **CONCLUSION**

The exercise described above and the group categorizing technique that it uses has several positive attributes which we believe should be noted:

1. It is highly flexible and can be adapted to many different courses, not just those that use financial information.
2. It is relatively easy to conduct. Most instructors can divide students into groups, give them a packet of disorganized information, and ask them to sort it and solve some problem.
3. It helps students to develop intellectual skills, communication skills and interpersonal skills.

**Appendix I**

**Classification of Accounts Assignment**

The services provided to clients by the accounting profession have changed with the availability of low-cost general ledger and tax software. Accountants rarely do routine preparation of financial statements for clients who keep their accounting records in good order. However, there still remains the new client who needs a set of financial statements to get a line of credit at the bank and that will arrive at an accountant's office with a pile of receipts. This exercise simulates this sort of accounting engagement.

Your group has received an envelope full of receipts from Cheng Sun, the owner of Redwood Works for January 1, 1999 through December 31, 1999. This is a small business that has two sources of revenues.

First, The business designs custom furniture for corporate offices. Second, the company produces and sells a line of redwood tables and chairs. While Cheng Sun is a gifted furniture craftsman and designer, he has no background in accounting. He has grouped his bills into categories and computed a total for each category. He has no idea how to use these totals to produce financial statements. Cheng Sun has come to your group for advice.

The first step in producing financial statements will be to decide how to classify the various items. In determining how to categorize items, remember the guidance provided by the Conceptual Framework of accounting. It includes definitions of assets, liabilities, expenses, and revenues. In addition, you must not forget the restrictions imposed by the cost-benefit rule and materiality limitation. All immaterial items should be expensed unless it is important to control them by including them in inventory. In this case, Cheng Sun has told you that he inventories all office supplies and sandpaper because of a theft problem he's experienced in the past.

**Instructions:**

1. Sort and categorize the items in the packet into the following categories:

Balance Sheet Items- Assets; Liabilities; Owner's Equity

Income Statement Items- Revenues; Cost of Goods Manufactured; Operating Expenses; Selling Expenses; Administrative Expenses

2. Make the following calculations:

A. Compute Cost of Good Manufactured assuming that there were no beginning inventories of any sort and that there was no work remaining in process at the end of the year.

B. Prepare a balance sheet and an income statement for Redwood Works. You will need to compute Cheng Sun's equity in Redwood Works in order to complete the balance sheet.

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Cash \$1,300	Lathe Maintenance Costs \$1,300	Accumulated Depreciation - Office Equipment \$44,900	Samples For Trade Shows \$700
Accounts Receivable \$850	Lathe Operator Wages \$1,300	Accounts Payable \$800	Customer Order Forms \$1,150
Redwood Tables \$1,750	Carpenter Wages \$1,300	Factory Wages Payable \$2,150	Delivery Truck Leasing Costs \$1,600
Sandpaper On Hand \$1,450	Lathe Depreciation \$700	Property Taxes Payable \$2,300	Wage Expense - Delivery Truck Drivers \$700
Office Supplies \$1,600	Lathe Department Supervisor's Salary \$850	Unearned Design Fees \$1,150	Sales Commissions \$1,600
Prepaid Office Building Rent \$700	Screws For Assembly \$1,250	Cheng Lee, Capital ?	Office Utilities Expense \$1,200
Prepaid Business Insurance \$1,750	Glue For Assembly \$1,600	Cheng Lee, Drawing \$1,900	Office Supplies Expense \$1,250
Factory Building \$148,000	Factory Wages Expense \$1,900	Redwood Table Sales \$115,000	Office Equipment Rent Expense \$1,200
Production Equipment \$41,500	Plant Manager's Salary \$700	Design Fees Earned \$27,500	Miscellaneous Expense \$600
Office Equipment \$95,500	Depreciation Of Manufacturing Plant \$1,450	Materials Handling \$1,600	Business Insurance Expense \$1000
Land \$151,000	Redwood Used For Production \$850	Janitorial Labor Expense - Factory \$700	Advertising Expense \$900
Accumulated Depreciation - Factory Building \$65,500	Crating For Shipment \$1,750	Coolants & Lubricants Used \$1,750	Fee to Scientist Looking For Another Wood Source \$1,150
Accumulated Depreciation - Production Equipment \$9,400	Shipping Costs \$1,150		

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## APPENDIX B

### One Possible Solution

#### Redwood Works

#### Balance Sheet As of December 31, 1999

##### Current Assets

Cash	\$1,300	
Accounts Receivable	850	
Redwood Tables	1,750	
Sandpaper On Hand	1,450	
Office Supplies	1,600	
Prepaid Office Building Rent	700	
Prepaid Business Insurance	1,750	
	1,750	\$9,400

##### Long-term Assets

Land		\$151,000
Factory Building	\$148,000	
Accumulated Depreciation - Factory Building	(65,500)	82,500
Production Equipment	\$41,500	
Accumulated Depreciation - Production Equipment	(9,400)	32,100
Office Equipment	\$95,500	
Accumulated Depreciation - Office Equipment	(44,900)	50,600
		316,200
		<b>\$325,600</b>

##### Liabilities

Accounts Payable		\$800
Factory Wages Payable		2,150
Property Taxes Payable		2,300
Unearned Design Fees		1,150
		\$6,400

##### Owner's Equity

Cheng Lee, Capital		\$321,100
Cheng Lee, Drawing		(1,900)
		319,200
		<b>\$325,600</b>

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## Redwood Works Income Statement For the year ended December 31, 1999

Redwood Table Sales		\$115,000
Design Fees Earned		<u>27,500</u>
		\$142,500
Carpenter Wages	\$1,300	
Coolants & Lubricants Used	1,750	
Depreciation Of Manufacturing Plant	1,450	
Factory Wages Expense	1,900	
Glue For Assembly	1,600	
Janitorial Labor Expense - Factory	700	
Lathe Depreciation	700	
Lathe Maintenance Costs	1,300	
Lathe Operator Wages	1,300	
Lathe Department Supervisor's Salary	850	
Materials Handling	1,600	
Plant Manager's Salary	700	
Redwood Used For Production	850	
Screws For Assembly	<u>1,250</u>	
Cost of Goods Manufactured		(17,250)
Crating For Shipment	\$1,750	
Customer Order Forms	1,150	
Delivery Truck Leasing Costs	1,600	
Sales Commissions	1,600	
Samples For Trade Shows	700	
Shipping Costs	1,150	
Wage Expense - Delivery Truck Drivers	<u>700</u>	(8,650)
Selling Expenses		
Advertising Expense	\$ 900	
Business Insurance Expense	1,000	
Miscellaneous Expense	600	
Office Equipment Rent Expense	1,200	
Office Supplies Expense	1,250	
Office Utilities Expense	1,200	
Salaries For Scientists Looking For Another Wood Source	<u>1,150</u>	
		<u>(7,300)</u>
		<u><u>\$109,300</u></u>