

Setting

I teach the management capstone course “MGT416: Decision Making.” In this course, student teams compete with each other using a business simulation. To do this effectively, students need to capitalize on what they learned during college and apply it. There are a lot of financial reports in the business simulation that the students need to interpret, and therefore I do one lecture on accounting where we review the basics. In this lecture, I guide the students through the creation of financial statements for a very simple business. My main resource for building this lecture is “The Accounting Game: Basic Accounting Fresh from the Lemonade Stand by Judith Orloff & Darrell Mullis.” My goal for this lecture is for the students to be able to recreate these financial statements themselves if they were presented with the same information again. Also, by being able to create these, I really believe that students will also be able to better interpret statements they have not created.

This takes up half a session of a 4-credit evening class (one session per week), so a little under two hours.

QR goals:

(a) knowledge and conceptual understanding

Understand the basic elements (e.g. the difference between expenses and cost of goods sold, the difference between accrual and cost accounting) of financial statements and how they are bound together through the accounting equation ($A=L+SE$).

(b) thinking and other skills

Create an income statement, balance sheet and cash flow statement for a very simple business.

(c) attitudes, values, dispositions and habits of mind

Critically evaluate erroneous financial statements by pointing out errors and discussing them e.g., point out what might be wrong with a balance statement which doesn't balance and justify suggested changes.

Outline of lesson plan

Step 1: Introduce basic concepts of financial statements using the example of a lemonade stand

More specifically, I want to ensure the students understand the following concepts well:

Balance sheet:

Assets: cash, accounts receivable, inventory, prepaid expenses, fixed assets

Liabilities: accounts payable, notes payable

Owner's equity: original investment, retained earnings, earnings week to date

Cash flow statement

Collections

Inventory paid

Fixed asset investment

Expenses paid
 Borrow/payback
 Change in cash
 Beginning cash
 Ending cash

Income statement
 Sales
 Cost of goods sold
 Beginning inventory
 Purchases
 Labor
 Total available for sale
 -Ending inventory
 Expenses

Activity 1

Develop a balance sheet, income statement and cash flow statement for a lemonade stand.

For example, students would have the below balance sheet:

ASSETS		LIABILITIES	
CASH	15	NOTES PAYABLE	10
		OWNER'S EQUITY	
		ORIGINAL INVESTMENT	5
TOTAL ASSETS	<u>15</u>	TOTAL LIABILITIES + OWNER'S EQUITY	<u>15</u>

Suppose you go to the grocery store to buy the following supplies: 50 lemons * \$0.20 a piece = \$10; 5 pounds of sugar * \$0.40 per pound = \$2. You also use 2 gallons of water, which is free. Update the balance sheet.

Result:

ASSETS		LIABILITIES	
CASH	3	NOTES PAYABLE	10
INVENTORY	12	OWNER'S EQUITY	
		ORIGINAL INVESTMENT	5
TOTAL ASSETS	<u>15</u>	TOTAL LIABILITIES + OWNER'S EQUITY	<u>15</u>

Step 2: Give students information that will allow them to fill out a balance sheet.

Activity 2a: Fill out a balance sheet

Here is the information you need:

Make a balance sheet for this week. You retained \$10 in earnings from the previous weeks. You also have cash worth \$13. You originally invested \$5 in the business.

Here is what you do this week:

You get a \$50 loan from the bank.

You go back to the grocery store to buy 10 pounds of sugar * \$0.40 per pound = \$4. You purchase these 10 pounds of sugar on credit.

You also buy 100 lemons at \$0.20/lemon = \$20. You pay in cash.

You want to make a new batch of sixty glasses with half of your lemons (fifty lemons at \$0.20 each) and half of the sugar (five pounds at \$0.40 each).

You sell 60 glasses for 50 cents each. 40 glasses cash and 20 glasses on account.

You repay \$25.00 of the bank loan.

The banker wants \$2 in interest.

The neighbors ask you to buy an insurance policy. The insurance agent offers you a three-year policy which costs \$3 payable in advance.

You decide to spruce up your place of business and negotiate to buy a more professional looking lemonade stand from an older kid in the neighborhood, which had his own lemonade business some years ago. You get the stand for \$8. You also buy a tiny patch of land from a friend's family for \$2.

You don't like the current colors of the stand and decide to paint it yourself in bright colors. You can get a couple of cans of paint for \$2. The paint is cheap and will peel the first year.

ASSETS		LIABILITIES	
CASH	<input type="text"/>	ACCOUNTS PAYABLE	<input type="text"/>
ACCOUNTS RECEIVABLE	<input type="text"/>	NOTES PAYABLE	<input type="text"/>
INVENTORY	<input type="text"/>	TOTAL LIABILITIES	<input type="text"/>
PREPAID EXPENSE	<input type="text"/>	OWNER'S EQUITY	
FIXED ASSET	<input type="text"/>	ORIGINAL INVESTMENT	<input type="text"/>
		RETAINED EARNINGS	<input type="text"/>
		EARNINGS WEEK TO DATE	<input type="text"/>
		TOTAL OWNER'S EQUITY	<input type="text"/>
TOTAL ASSETS	<input type="text"/>	TOTAL LIABILITIES + OWNER'S EQUITY	<input type="text"/>

Activity 2b: Compare and discuss

Did your neighbor get the same results? What is different and why?

Activity 2c: Class review

We build the balance sheet together in class.

Step 3: Give students information that will allow them to fill out an income statement

Activity 3a: Fill out an income statement

Here is the information you need:

Your ending inventory last week was \$2 (from week 1's ending balance sheet)

The bank loaned you \$50 in cash

You sold the remaining inventory of your first batch for \$2 in cash

You purchased 10 pounds of sugar at \$0.40 per pound and charged it to the grocer on account for \$4

You purchased 100 lemons at \$0.20 per lemon, paying cash \$20.00

Your sister makes one batch of lemonade (50 lemons + 5 lbs. of sugar = 60 glasses). She charges \$1 for labor. Cost of production = \$13

Your sales: \$20 in cash and \$10 in accounts receivable

Bad debt expense = \$4 because one kid that owed you \$4 for 8 glasses moved away

You repay the bank \$25 + \$2 interest expense

You pay \$3 for a 3-year liability insurance policy; this year's insurance expense is \$1.

INCOME STATEMENT		Begin: Monday AM. End: Sunday PM	
SALES			\$ <input type="text"/>
Beginning inventory	\$ <input type="text"/>		
+Purchases	<input type="text"/>		
+Labor	<input type="text"/>		
Total available for sale		\$ <input type="text"/>	
-Ending inventory		<input type="text"/>	
-COST OF GOODS SOLD			<input type="text"/>
GROSS PROFIT =			<input type="text"/>
EXPENSES			
• <input type="text"/>	<input type="text"/>		
• <input type="text"/>	<input type="text"/>		
• <input type="text"/>	<input type="text"/>		
= TOTAL EXPENSES			<input type="text"/>
NET PROFIT BEFORE TAXES (=earnings week to date)			<input type="text"/>

Activity 3b: Compare and discuss

Did your neighbor get the same results? What is different and why?

Activity 3c: Class review

We build the income statement together in class.

Step 4: Give students information that will allow them to fill out a cash flow statement

Activity 4a: Fill out a cash flow statement

- Your beginning cash is \$59.
- You receive \$5 in cash from collecting accounts receivable.
- You invest in a stand and land for \$10 (paid in cash).
- You spend \$2 on paint which will last 1 year (paid in cash).
- You purchase some pre-made lemonade for \$20 in cash. It contains 100 glasses.
- You sell all the pre-made lemonade for \$50. Cash: \$40; accounts receivables: \$10
- You decide to pay back the grocery store \$4 on your account

You decide to pay the bank back \$25 for the loan plus \$2 for interest.

CASH STATEMENT WEEK 4	
COLLECTIONS	\$ <input type="text"/>
INVENTORY PAID	<input type="text"/>
FIXED ASSET INVESTMENT	<input type="text"/>
EXPENSES PAID	<input type="text"/>
BORROW/PAYBACK	\$ <input type="text"/>
CHANGE IN CASH	<input type="text"/>
BEGINNING CASH	<input type="text"/>
ENDING CASH	<input type="text"/>

Activity 4b: Compare and discuss

Did your neighbor get the same results? What is different and why?

Activity 4c: Class review

We build the cash flow statement together in class.

Step 5: Make the connection between the income statement and the balance sheet.

Activity 5

Assume that your balance sheet at the start of the week looks like this:

ASSETS				LIABILITIES	
CASH			51	ACCOUNTS PAYABLE	28
ACCOUNTS RECEIVABLE			6	NOTES PAYABLE	0
INVENTORY	RAW MATERIALS	10	10	TOTAL LIABILITIES	28
	FINISHED GOODS				
PREPAID EXPENSE			2	OWNER'S EQUITY	
FIXED ASSET	12	2	10	ORIGINAL INVESTMENT	5
				RETAINED EARNINGS	46
				EARNINGS WEEK TO DATE	0
				TOTAL OWNER'S EQUITY	51
TOTAL ASSETS			<u>79</u>	TOTAL LIABILITIES + OWNER'S EQUITY	<u>79</u>

Based on the following information, create a new balance sheet.

- In the beginning of the week you spent \$10 to purchase more raw materials.
- You used \$10 worth of inventory to produce a batch of lemonade, which you sell for \$40.
- You received \$20 in cash and \$20 in accounts receivables
- Somebody paid their bill which reduced accounts receivables with \$10
- You also depreciate your fixed assets with \$1.

ASSETS		LIABILITIES	
CASH	<input type="text"/>	ACCOUNTS PAYABLE	<input type="text"/>
ACCOUNTS RECEIVABLE	<input type="text"/>	NOTES PAYABLE	<input type="text"/>
INVENTORY	<input type="text"/>	TOTAL LIABILITIES	<input type="text"/>
PREPAID EXPENSE	<input type="text"/>	OWNER'S EQUITY	
FIXED ASSET	<input type="text"/>	ORIGINAL INVESTMENT	<input type="text"/>
		RETAINED EARNINGS	<input type="text"/>
		EARNINGS WEEK TO DATE	<input type="text"/>
		TOTAL OWNER'S EQUITY	<input type="text"/>
TOTAL ASSETS	<input type="text"/>	TOTAL LIABILITIES + OWNER'S EQUITY	<input type="text"/>

- 1) How much are your earnings week to date? (\$29)
- 2) On which other statement can you find earnings week to date? Income statement
- 3) Where on the income statement? Net income/profit before tax
- 4) How do we find the net profit before tax using the income statement?

$$\text{Sales} - \text{COGS} - \text{expenses} \\ \$40 - \$10 - \$1 = \$29$$

Step 6: Discern cash flow from collections

Activity 6

- 1) Imagine that you sell \$100 worth of lemonade this week (accounting period of one week). A/R was \$100 at the beginning of the week and \$80 at the end of the week. How much cash was collected from customers during the period?

\$120 was collected in cash because A/R decreased by \$20 and additional sales were \$100.

- 2) Imagine that you sell \$100 worth of lemonade this week (accounting period of one week). A/R was \$100 at the beginning of the week and \$150 at the end of the week. How much cash was collected from customers during the period?

\$50.