

# Using The Monopoly<sup>®</sup> Board Game As An Efficient Tool In Introductory Financial Accounting Instruction

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## ABSTRACT

*This paper discusses the use of the Monopoly<sup>®</sup> board game as a tool to contrast the concept of income from an economic perspective with the financial accounting (GAAP) concept of income. This approach is used in a principles of accounting course to make more efficient use of time in an environment where only one academic term is devoted to presenting basic financial accounting concepts. The use of an engaging and unusual medium early in the principles course helps students build confidence and provides positive reinforcement of understanding in a course that undergraduate business students do not always enjoy. The board game medium allows for a simple presentation of some of the differences in economic and accounting definitions of income. Further, it provides a familiar economic simulation of business activity that saves time in demonstrating the value of accounting information from the user's perspective.*

## INTRODUCTION

In 1965, Yale management professor W. J. Bruns, Jr. called for the greater use of games and simulations that more clearly demonstrated the nature and results of management decisions in the instruction of accounting. Bruns concluded that prior research “. . . has revealed the promise which [business] games offer to accounting instruction . . .” (Bruns, 1965, p. 650). In 1989, Knechel advanced the use of the Monopoly<sup>®</sup> board game in teaching undergraduate students the financial accounting journal entry process (Knechel, 1989). The premise centered on a desire to move beyond the extensive (and often cumulative) practice sets for instruction in the introductory financial accounting courses. There were numerous drawbacks with the use of practice sets, not the least among them being (1) the lack of active engagement of students in the process, (2) failure to achieve a better understanding of the realities of business, and (3) a common solution for all students that left the instructor with problems of control over individually graded material. To keep accounting students actively engaged in learning the financial accounting system of debits and credits, one of the authors began to employ a modified version of Knechel's approach using the Monopoly<sup>®</sup> game for classroom instruction in the first principles of accounting course.

At about the same time, accounting departments at many colleges joined the trend toward teaching principles of accounting from the “user” as opposed to the “preparer” perspective. Thus while new textbooks were examining financial accounting from the “user's” perspective, many students were missing the connection between managerial decisions about economic opportunities and the effects of those decisions on the financial statements being analyzed. The financial accounting cycle had become merely a “black box” process that used vague financial accounting information (journal entries describing economic events) as input to produce highly structured output (financial statements).

When we tried to explain how the user would analyze the information presented in the financial statements, the most frequently asked questions focused on the detail of the financial accounting cycle. Examples of these questions included: “How did you get that number?”; “Why is that account calculated in that way?”; and “How could management have made individual decisions to give different results?” Many students were failing to “connect the dots” in the financial accounting cycle process. This failure resulted in a diminished ability to envision the overall

picture of the accounting process and to understand how different choices by management would have produced different financial statement results.

To fully prepare students for future accounting courses, instructors sacrificed class time trying to bridge this gap of understanding that developed during the transition from the “preparer’s” perspective to the “user’s” perspective in the course. This process took time that was planned for more advanced concepts near the end of the course. We wondered whether it was possible to modify the presentation to encompass both perspectives (“preparer’s” and “user’s”) initially and then transition to the “user’s” approach for the remainder of the course. Could the Monopoly® board game be used bridge this gap?

### **MONOPOLY® AS AN ICE BREAKER TO ACCOUNTING**

After introducing the history and purpose of financial accounting in previous class sessions, the instructor brings the Monopoly® games to class unannounced. The shock factor never seems to fail even though rumors about the class have preceded the introduction of the game. Teams of two self-selected class members are paired with at least one other team on a board. Teams are told to “keep a written record of the important events” that occur in the game. They are also told that this record will be used to evaluate their performance as a team. The games usually begin with this question: “What is important to record?” The response is consistently stated in terms of keeping records of the activities that are important to the team’s success. Typically, one team member keeps records and the other takes on the position as “the roller” for the team. In most cases, “the roller” is usually the player who considers himself better at strategy and “playing the game.” The other player is referred to as “the recorder” and usually is a person who does not exhibit as much “flair for the game.”

As the game progresses, most of the instructor’s activity is that of a referee in resolving disputes about rules interpretation. The noise level in the classroom tends to become louder as the class period progresses and the players get into the game and develop a more competitive spirit. As the teams play, the instructor moves about the room encouraging the players to exercise good strategies and to prepare for unexpected bad luck. As the class time draws to an end, the players are asked to prepare a list of “everything that they have” at the end of the class period. The homework assignment is to formalize the list of everything that they have at the end of the class and present it at the start of the following class. In addition, each team must adopt a name for its team and state who was “the roller” and who was “the recorder.”

The succeeding class begins with collection of one copy of the homework assignments from each team. The class period continues with a short lecture on the general attributes and makeup of the balance sheet in financial accounting. After this introduction, the instructor calls for volunteers to present their “game results” in the form of a balance sheet. If volunteers are not forthcoming, the instructor picks a team that was quite gregarious and boastful of their prowess during the game day. By reinforcing the balance sheet components from the beginning of the class, an ending balance sheet is prepared from the list of assets the team has at game’s end. Extra time is spent on good form in the presentation of the team’s balance sheet. Upon completion of the presentation a second team’s balance sheet is added in close proximity of the first team’s financial statement. A third example is quickly added, as the other students usually are eager to “fill in the blanks” with the information and demonstrate that they fully understand the process. As the additional statements are completed, the class participants naturally begin to do some basic comparative financial analysis and draw conclusions about the relative success of the teams shown before them.

The class usually pressures the instructor to determine “the real winner” of the exercise. The concepts of short-term and long-term strategy are introduced along with a general assessment of the types of assets held and their relative value in each separate competitive environment. The assertion that accounting information is interpretive rather than merely a simplistic “scoreboard of economic success” is repeated from an earlier presentation. A repetition of the introduction to accounting as a social science rather than a physical/natural science is presented, also. Then each team is asked to take its game results and prepare its own balance sheet for submission at the following class period. The teams that volunteered for presentation have already received the information needed for the assignment, but they must also present it in good form for homework credit to be granted. This feature starts the process of students freely

volunteering their assigned work for the instructor to use in class, as they realize that the payoff is a quick start on completing their future homework.

The next class session begins with an abbreviated presentation on the view of income from a theoretical, economic perspective and the economic concept of the change in “*welloffness*” as a measure of income. This economic residual approach to income is calculated using the balance sheet homework assignments that the class has submitted from the game previously played. By determining the balance sheets at both the start and end of the game, the students can use the net change in the owners’ residual equity to serve as their “earnings” or “income” for the first round of Monopoly®. This calculation seems on first blush to be a “hard number” that is solidly comparable across all teams as each has started from exactly the same position with identical beginning balance sheets. The succeeding discussion focuses on the makeup of this income number as a composite of both skill and luck. Even the self-declared most highly skilled players eventually admit that there had been moments in the game that luck played heavily into their strategy and their ultimate success. The instructor then slants the discussion toward a differential in the terms of “earnings” and “income.” The concept of “quality of earnings” is introduced, thereby focusing on the ability of management to repeat or improve upon that portion of income resulting from a strategic plan to generate the earnings. “Income,” on the contrary, captures many things including earnings, income from unexpected sources, and unrepeatable profits from the sale of fixed assets. With these concepts introduced the remaining class time focuses on the definition of accounting income and how it differs from the residual calculation just presented. The use of the Monopoly® game provides a catalyst to student patience in accepting the somewhat dry theoretical contrast of income definitions and concepts. The preview for the next class is touted as a presentation of a 500 year-old method of accounting that is still used in the most modern of computer programs to account for current economic and business activity.

In the next class session, the instructor asks if anyone can take the work of the “recorders” and give a replay of the game, move by move, and the events that occurred sequentially. After a student volunteers to try and then demonstrates the frustration and gaps that even the best notes can leave for the interpreter, the instructor asks the team partner (“the roller”) if he or she can do the same from the notes. That offer rarely ever receives an acceptance. This provides the foundation for the intriguing notion of how this goal could possibly be achieved. The historical origins and needs for Pacioli’s double-entry system are presented and set in the context of the age of exploration and need for capital to expand world trade. The usual response to this presentation is this question: “When are we going to play Monopoly® again?”

The promise of future play provides positive reinforcement to the questioner, and the class resumes with the brief introduction of journals and ledgers and their place in the system of accounting records. A series of simple exercises focusing on interpreting economic events and recording basic journal entries are demonstrated over the next two class periods to make a quick study of the accounting cycle. When this sequence is completed and the students have demonstrated some basic proficiency in making journal entries, the Monopoly® boards are brought to the next class, again unannounced, and the teams are set for another round of play with a great deal more understanding of the game as an economic simulation, rather than just a board game.

Students are presented with a handout that includes a chart of accounts for the game listed by financial statement (Balance Sheet & Income Statement) to assist in making choices. This is an abbreviated version of Knechel’s (1989) suggested accounts for the game. The instructor moves about the room reinforcing the prior class points of instruction and building confidence for students in their entries made from the moves of the game. The game tends to move a bit more slowly because “the recorder” keeps “the roller” from making further moves until the entries are complete. This allows “the roller” to also start to see the effects of the moves on the game based on the entries made by “the recorder.” As more complex transactions are made and entries require more expertise, the instructor asks the players to pause all games to demonstrate on the board the economic event in question and the appropriate accounting treatment of that event. Often broader discussion will result from this approach and gives way to a greater understanding and tolerance of the teams to engage in activity that makes the game more interesting and realistic. The pace of play increases as confidence builds, and the teams begin to realize the repetitive and routine nature of many of the entries in the course of the game. The total number of entries in an hour of play will usually fall between 25 and 60. This degree of repetitive practice and the resultant heightened tolerance level of the student for the approach far

exceed that achieved in normal homework assignments or instructor presentation activity in the same amount of class time.

## **CONCLUSIONS**

Having established the basic concepts of the balance sheet and the relationship to income as calculated as a residual, the students are fundamentally prepared to approach the financial accounting articulation method of income calculation. The hands-on learning of these concepts utilizing Monopoly® tends to speed the learning curve and anchor the information solidly, thus becoming a better foundation for subsequent financial accounting concepts. An unexpected result of this process has been the breakdown of the stereotypical barriers built by student rumor and tradition that “accounting is just another math course in disguise...” The general student consensus holds that the first course is required and just has to be endured. This attitude shuts off the lines of communication needed to transfer the essential components of accounting to the student. With this impediment, the chances of success are significantly diminished and a less than favorable experience is the result. The use of Monopoly® early in the course, as a familiar catalyst, facilitates a better learning attitude toward the material and thus increases the chance of student success.

## **REFERENCES**

1. Bruns, W.J., Jr., Business Games in Accounting Instruction, *The Accounting Review* (July 1965), pp. 650-653.
2. Knechel, W. Robert, Using a Business Simulation Game as a Substitute for a Practice Set, *Issues in Accounting Education*, (Fall 1989), pp.411-424.

## **EXHIBIT 1**

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### **MONOPOLY® - CHART OF ACCOUNTS**

#### **Balance Sheet Accounts:**

##### *Assets:*

- Cash
- Land
- Receivables
- Investments - Railroads
- Investments - Utilities
- Buildings - Houses
- Accumulated Depreciation - Houses
- Buildings - Hotels
- Accumulated Depreciation - Hotels
- Other Assets

##### *Liabilities:*

- Mortgage Payable
- Interest Payable
- Taxes Payable

##### *Equity:*

- Common Stock
- Retained Earnings

**GUIDELINES FOR MONOPOLY® GAME**

1. Write a narrative of each roll and move that you make during the game. List these by round number. The first time you move is round #1, the second roll is round #2, etc.
2. Describe as clearly as possible all the "things" that happen to your team in the course of the game.
3. When you complete the day's game, list all of the cash, property, and any "things" that you have, owe, etc. Try and determine which of the accounts above are the appropriate ones for the items you list. Save the complete list and make a copy for each player on your team.
4. Bring your notes to class.

**Income Statement Accounts:**

*Revenues:*

Rental Revenue - Land  
Rental Revenue - Houses & Hotels  
Salary Revenue  
Investment Revenue - Utilities  
Investment Revenue - Railroads  
Interest Revenue  
Miscellaneous Revenue

*Expenses:*

Rent Expense  
Tax Expense  
Fines & Penalties Expense  
Repairs & Maintenance Expense  
Interest Expense  
Depreciation Expense  
Miscellaneous Expense

*Gains & Losses:*

Gains on Sale of Property  
Losses on Sale of Property  
Other Gains & Losses

**ADDITIONAL RULES OF THE GAMES**

**When A Segment Of The Game Is Completed, Each Team Should Complete The Following Analyses:**

1. Prepare a general ledger (using the attached chart of accounts) and post all transaction to a *t-account* ledger.
2. Prepare a pre-closing trial balance.
3. Reconcile the cash on hand with the balance of the cash account. Any discrepancy is probably due to the failure to record a transaction during the course of the game. If the cash reconciliation produces a discrepancy, attempt to discover the cause of that discrepancy by comparing notes with competing players in the game. If the discrepancy can not be explained, adjust the cash balance to agree with the cash on hand and appropriately note the financial statements for full disclosure.
4. Prepare and post the following period-ending adjusting entries:
  - A. **Depreciation:** Assume that all houses have a useful life of 20 years and all hotels have a useful life of 25 years.

- B. **Salary:** Accrue unpaid salary based upon the closing location on the board. Accrue one quarter of your salary for every full side of the board that you are past "Go". For example, if you are on the side of the board just past "Go", accrue no salary, but if you are on the side with Boardwalk, accrue 75% of the salary (\$150).
  - C. **Interest:** If any properties are mortgaged, accrue interest at ten percent for the number of turns that the money has been borrowed. For example, if \$200 was borrowed on turn 20 and the total number of completed turns in the game was 40, accrue  $\$200 \times 10\% \times 20/40$  or \$10.
  - D. **Taxes:** Accrue taxes based upon 10% of the *increase* in total assets on hand at the close of the period play.
- 5. Prepare closing entries.
  - 6. Prepare a post-closing trial balance.
  - 7. Prepare (in good form) an Income Statement and Balance Sheet at the end of the period.

**NOTES**