

Using The Monopoly[®] Board Game As An In-Class Economic Simulation In The Introductory Financial Accounting Course

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ABSTRACT

This paper discusses using the Monopoly[®] board game as an economic simulation exercise to reinforce an understanding of how the accounting cycle impacts financial statements used to evaluate management performance. This approach uses the rules and strategies of a familiar board game to create a simulation of business and economic realities, which then becomes an effective in-class financial accounting practice set. The unique combination of each player's skill and luck provides for unlimited outcome possibilities, delivering an interpretive result that cannot be predicted. This provides the students with a sense of ownership and "their own business" activities to record and present in class. While there is a definite lack of control over homework assigned by the instructor, the uniqueness of each Monopoly[®] team's game results requires active engagement in class and individual effort on the assignments outside the classroom. The game establishes a valuable parallel for reality in practicing the financial accounting cycle and emphasizing its use by external parties. Because of the dynamic sense of capturing the "real-time" aspect of the game into finished financial statements for analysis, the students start to sense a greater appreciation for the role that accounting plays in business. This makes the first course in financial accounting move more quickly, and students appear to grasp the nature and purpose of the financial accounting system more readily and actively than with other pedagogical approaches previously used. This tends to offset the generally negative reputation of financial accounting courses on campus and also creates positive buzz about the principles of accounting class for students who must take it as a required course.

INTRODUCTION

Using the Monopoly[®] board game in this paper as an economic simulation follows a previous work utilizing the game as an efficient tool in the presentation of the economic and accounting calculations of income for a beginning financial accounting course. The motivation of both works follows the call of Yale management professor W. J. Bruns, Jr. for the greater use of games and simulations to demonstrate the nature and results of management decisions. Bruns held that prior research ". . . revealed the promise which [business] games offer to accounting instruction . . ." (Bruns, 1965, p. 650). Unfortunately, there were relatively few successful attempts to develop new economic simulations. Academics who tried to develop such "games" were plagued by the steep learning curve for such new games and by students' attempts to manipulate the decision-making and learning processes on the way to "winning" the game. For these reasons most simulations focused on graduate rather than undergraduate instruction.

Since most of these "games" centered on management simulation, the financial accounting aspects of these economic simulations were overshadowed by the desire to reach a neat managerial feedback from the competitive process. By 1989, Knechel was promoting the use of the Monopoly[®] board game to teach undergraduate students the financial accounting journal entry process (Knechel, 1989). His motivation was to move beyond the extensive (and often cumulative) practice sets commonly used for instruction in the introductory financial accounting courses. These practice sets suffered from numerous drawbacks, including (1) lack of active engagement of students in the

progressive process, (2) failure to achieve a richer understanding of the realities of business operations, and (3) a single solution for all students, leaving the instructor with student submissions that did not necessarily guarantee that the students had not collaborated with or outright copied their work from others.

To overcome such problems with traditional practice sets, faculty at The Ohio State University developed an accounting game called *Simulation* (Gray, Willingham, & Johnston, 1963) in an attempt to “(1) require the student to think about a number of significant accounting problems and economic concepts, (2) motivate an extremely high proportion of students to learn how accounting is used in decision-making, and (3) be simple enough that it can be used in the classroom without any calculating equipment.”

Simulation focused on the area of management accounting, with primary decisions geared toward manufacturing and selling products from budgeted positions and pricing choices. While the game was generally successful in the classroom, it failed to capture the sense of real business activity and to subject the students to seemingly random events and situations.

Knechel found that the random element of Monopoly[®] achieved by the roll of the dice solved the problem of predictability and added more student interest to the outcome. The dice create an equalizing aspect to the simulation that makes the game more realistic and mitigates the skill of each player or team playing. To motivate accounting students to learn the financial accounting system of debits and credits used to produce financial statements, one of the authors adapted Knechel’s approach to using the Monopoly[®] game for classroom instruction in the first principles of accounting course. Beginning financial accounting students are often reluctant to invest the necessary time in the repetitive process of learning the accounting cycle from debits and credits to presentation of financial statements. Hence the need for a more acceptable way to overcome the “practice time” required to master the process.

In recent years, accounting departments at many colleges and universities have been teaching principles of financial accounting from the perspective of the “user” of financial statements as opposed to the traditional “preparer’s” perspective. Thus, while new textbooks were presenting financial accounting from the “user’s” perspective, many students were not able to grasp the relationship between managerial decisions that affect the company’s response to economic and business opportunities and the results of those decisions on the financial statements being presented. The role of the accounting cycle in the process had become disconnected from the output of that process — the financial statements.

INTEGRATING THE GAME INTO THE CLASSROOM

Initially the Monopoly[®] game was used to introduce the students to a residual (economic) calculation of income. This introductory approach is presented in detail in a previous work (Shanklin & Ehlen, 2007). Following a brief handout tutorial on the basic components of the accounting cycle and a homework assignment illustrating the role of journal entries in the preparation of financial statements, the user’s perspective was adopted using fundamental financial analysis. This demonstrates the “why” behind the “what” of accounting. Once the students have exhibited some understanding and mastery of the uses of the financial statements, the four basic financial statements are introduced and explained so that the students understand how a user “interprets” the content and the underlying components of those statements.

An exercise similar to the in-class tutorial is used for homework to assess the proficiency level of the class. Once the students appear to understand the accounting cycle, the Monopoly[®] game is reintroduced as a reinforcement and practice component similar to the cumulative practice set used so frequently in past pedagogy. These practice sets were useful tools to reinforce the entry level skills presented earlier in the beginning financial accounting course, but were perceived by students as “boring,” “never ending,” and “pointless.” Younger generations of business students are not as tolerant of the drudgery of the accounting cycle and demand a sense of task completion that approaches obsession. The “thrill factor” that comes from a “wired world” is an everyday expectation for the student. They expect to learn and to be entertained simultaneously. The “gamers” among the students are quite savvy at seeing their immediate actions result in greater or less advantage later because of the

choices they made previously. While this aspect should lead to higher expectations in learning the accounting cycle and seeing the effects on the resulting financial statements, students often do not give the instructor time to fully develop and demonstrate the correlation of accounting input to output, instead wanting quick feedback and immediate transparency of the effects. How can the instructor simultaneously accelerate the learning process and exhilarate the student?

Using the Monopoly[®] board game earlier in the course elicits a positive response, and students usually ask “when are we going to play again.” The “Monopoly[®] approach” can be used to capture and hold the attention of students until the desired skills can be achieved. While there are varying degrees of receptiveness by classes, on the whole most students get into the game enthusiastically and ultimately learn the desired aspects of the accounting cycle: (1) assessing economic events; (2) translating those events into accounting entries; (3) posting journal entries to the ledger; (4) balancing the ledger; (5) making adjusting entries at game’s end; (6) closing the books; and (7) preparing financial statements for analysis. Properly presented and motivated, this entire sequence can be achieved through use of the Monopoly[®] game before student excitement wanes.

Since students have previously been exposed to transaction analysis — recording journal entries to reflect the effects of underlying economic events — the use of journal entries to record Monopoly[®] game moves is a natural extension in the exercise. With the chart of accounts presented to each student at the beginning of play, the early rolls of the dice are focused on which accounts to use to “appropriately” record the events that occur in the game. While most students have a good feel for how their “management decisions” reflect their strategy for winning the game, the student teams soon realize that proper recording of the events through the journal entries is necessary for their strategy to be reflected in the financial statements that will ultimately be used to evaluate the “success” of each team relative to the others.

This round of the game tends to move somewhat slowly because “the recorder” (the team member keeping the records) keeps “the roller” (the team member rolling the dice) from making further moves until the journal entries for the events are complete and accurate. This allows time for “the roller” to start to see the effects of the game moves reflected in the entries made by “the recorder.” As more complex transactions are made, the instructor periodically asks the players to pause all games to demonstrate on the classroom board or media projector the economic event in question and the appropriate accounting treatment for that event. Often broader discussion will result from this approach, leading students to a better understanding of the implications of their strategies. This usually encourages teams to engage in “management choices” that make the game more aggressive, interesting, and realistic.

The pace of play increases as confidence builds in the teams’ ability to make the appropriate journal entries to record the moves made on the Monopoly[®] board. The increased pace indicates that the teams are beginning to recognize the repetitive and routine nature of many of the journal entries in the course of the game. The total number of entries in an hour of class play will vary with the learning curve of the students, with higher numbers of journal entries usually indicating greater levels of understanding of the economic simulation.

After the in-class game session is used to produce the journal entries, the students are expected to take those entries home and generate a trial balance based on the game entries. The number of students able to complete a successful trial balance varies greatly from class to class. The key learning objective here is that no two teams will have the same trial balance to present. Each team must rely upon itself for the homework assignment since it is not possible to copy an answer from another team. This is an important element of the technique since it prevents weaker students from relying on others for their homework.

The lecture utilizing the trial balances previously assigned moves on to the adjusting entries required to take a “cash basis exercise” and turn it into an “accrual basis exercise” (see Exhibit 1 for examples of these adjustments). By starting with one team’s actual trial balance and using it to demonstrate the adjustments required, the entire class gains a richer understanding of the effects of the accrual method in the ultimate presentation of the results of business operations in financial statements. The resulting assignment is for all teams to make these entries

and prepare an adjusted trial balance before leaving the classroom. This prepares the students for a better chance of success in completing the accounting cycle by closing the books to present financial statements.

The class exercise that students generally recall most vividly from the Monopoly[®] game simulation is the day for statement presentation and the comparative analysis of the teams' performances. During the play in class, invariably there are the "experts" who insist upon bragging and extolling their skills to everyone. When the comparative analysis is presented and the class is asked about past performance and the likelihood of success for future play, many times the more silent and strategic teams are found to be "better investments" and "more successful managers" of the assets and resources. This is a very valuable lesson for the class and one that becomes even more evident as other topic areas are presented throughout the semester.

If the academic term is managed well, at least one more attempt at using the game as reinforcement of the accounting concepts presented throughout the term may prove valuable to the students. Once the accounting cycle is covered, most texts do not return to that skill and assume that students fully understand that aspect. Time permitting, a "refresher game" can be a very positive reinforcement for the class.

ADDITIONAL CONSIDERATIONS

Using the Monopoly[®] game approach increases the students' tolerance level for repetitive practice, and this approach far exceeds the number of repetitions and level of understanding resulting from typical homework assignments or instructor presentation activity in the same amount of class time. The active engagement of all the students in the process for the time allowed exceeds the more traditional methods we have previously utilized.

There are several extraneous aspects of the game approach that cannot always be predicted, but that affect the level of internal motivation seen in the classroom exercise. The Monopoly[®] game is almost universally known to the students before the classroom use, and there is no real learning curve that takes class time away from instruction. This is a real advantage in that no classroom contact time is lost teaching the class a new game. Because of their previous familiarity with the Monopoly[®] game, most students arrive "up to speed" without any prior classroom preparation. This, however, is not the case with some international students, and there is very little that can be done in class to help close this substantial gap in understanding the general intent of the game and the anticipated results of strategic play. As an attempt to mitigate this lack of exposure, loaning the game board to international students to take home from class has proven very helpful. The students respond positively to the instructor's personal interest in their progress, and they have an opportunity to use their personal time to better prepare for the in-class presentation and the exercise that will be using the game. These students also find that the game gives them exposure to students in the residence halls who will teach them not only the Monopoly[®] game and its vocabulary, but also the strategy for effectively playing the game. This advance preparation does tend to level the playing field for all students when the "competitive" class exercises begin.

A second extraneous aspect is a perceived "level of expertise" that many students bring to the game. This is the result of having played with friends at leisure in earlier adolescence, and many students extol their successful strategies that "always work." This confidence tends to bridge the gap of engagement that is posed by the introduction of the material for the accounting cycle. It would be unusual for students to exhibit anything close to such enthusiasm for any published problem set, no matter how well designed or conceived. If properly fostered, this spirit of the game that most students bring with them can be used to motivate the entire class. It can also add illustrative richness when the results of play are used as a financial statement analysis exercise in a subsequent classroom presentation for the entire student group to evaluate and interpret comparatively.

CONCLUSIONS

Having established the basic concepts of the accounting cycle, the Monopoly[®] game is a very effective way to illustrate the accounting cycle and to present an engaging approach to the financial accounting articulation method of income calculation. The hands-on learning through a team approach in the class simulation tends to speed the learning curve and keep student interest high for what is usually a very difficult concept when dealing with a wide range of student interests and capabilities.

Using the Monopoly[®] game as an “economic simulation” of business activity brings a familiar game to work in developing skills in basic financial accounting that many times prove difficult to master. This approach increases the “student buy-in” and attempts to excite the student about the financial accounting process before they get lost in the detail of the accounting cycle. Because students are familiar with the game, the basic comparative financial analysis is more understandable and the results are more comparable from one “company” (team) to another. All of this improves a student’s chance of success over other methods previously used. By using the Monopoly[®] game, the call of business educators for the use of simulations can now be brought down to the undergraduate level from previous efforts that were usually only used, with great difficulty, at the graduate level.

REFERENCES

1. Bruns, W.J., Jr., Business Games in Accounting Instruction, *The Accounting Review* (July 1965), pp. 650-653.
2. Gray, J., J. Willingham, and K. Johnston, A Business Game for the Introductory Course in Accounting, *The Accounting Review* (April 1963), pp. 336-346.
3. Knechel, W.R., Using a Business Simulation Game as a Substitute for a Practice Set, *Issues in Accounting Education* (Fall 1989), pp. 411-424.
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EXHIBIT 1

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

Income Statement Accounts

Revenues:

Rent Revenue - Land
Rent Revenue – Houses/Hotels
Service 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

EXHIBIT 1 (continued)

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 accounting cash balance to agree with the cash on hand by making a journal entry and appropriately noting 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 25 years and all hotels have a useful life of 40 years.
 - b. **Service Revenue:** Accrue unpaid service revenue based upon the closing location on the board. Accrue one quarter of your service revenue 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 service revenue, but if you are on the side with Boardwalk, accrue 75% of the service revenue (\$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