



Using 'The Apprentice' to Teach a Managerial Economics Course

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Introduction

As the business environment continues to experience rapid technological change, the use of economic analysis has become increasingly important for managers in the areas of production, pricing, management, financing and strategy. Given this changing business environment, firms are increasingly looking for individuals who can think analytically and use economic analysis to make well-informed decisions. Therefore, when designing an undergraduate course in managerial economics, it is important to construct a set of learning objectives that enhance the student's ability to develop analytical skills. In addition to analytical skills, firms also value employees with interpersonal skills. This often includes being a team player and having the ability to interact with, motivate and provide support for their colleagues. Firms are also looking for employees who have developed leadership skills either in their communities or through their participation in team projects or student organisations. Finally, firms seek employees who have good communication skills, entrepreneurial and marketing skills, the ability to relate their area of expertise to other associated fields, and the ability to adapt to a changing environment.¹

One of the techniques often employed in undergraduate business courses to help students develop the skills mentioned above involves the use of the case method. Supplementing a textbook with case studies is meant to give students the opportunity to analyse the real-world business decisions made by the owners and managers of firms in a variety of scenarios. The lessons that students learn from both the successes and failures of the different types of business decisions made in these cases are very valuable. In particular, requiring students to consider what they would have done differently and to have them explain why, encourages creativity and the development of analytical skills. In addition, using teams for case discussions provides an opportunity for students to work on their interpersonal skills.

One potential improvement upon the current case method would be for students to have the opportunity to actually implement their solutions to business problems in a real-world setting. It is one thing for the students to discuss what might work better, it is quite another for them to see it happen for themselves. By creating course objectives that require students to implement their ideas while at the same time holding them accountable for the results, better prepares them for the decisions they will face in the labour market.

The idea proposed in this paper is to use a television show known as the 'The Apprentice' as the backdrop for a semester-long game to supplement the traditional lectures in a managerial economics course. 'The Apprentice' is a reality television show that debuted during the 2003–04 season in the United States on NBC. In 2005, a similar version debuted in the United Kingdom. In both versions, a group of contestants compete for several weeks to earn a one-year job contract running either a company for Donald Trump (U.S. version) or a company for Sir Alan Sugar (U.K. version). The contestants are split into two teams and given a task to complete each week. After each task is completed, the losing team faces a boardroom confrontation in which one of the contestants is fired. This process continues until there is only one contestant remaining.

There are three major motivations for using this game as a supplement to class lectures. First, on the television version, the tasks performed each week typically require the contestants to make a variety of business decisions. This provides the first part of the motivation since in the game students get the opportunity to learn first-hand how economic principles can be used to make better business decisions. In addition, students are held accountable for their decisions (just like on the show) and therefore it is likely that the lessons become more meaningful.

Secondly, on the show, and in the classroom version, each team selects a new project manager for every task allowing for a variety of management styles to be examined. In constructing this game, one goal is to give the students an opportunity to take on a leadership role while gaining experience managing a team. Having each student take a turn as project manager allows for this objective to be met.

The third aspect of the television show that is relevant to the classroom version is the variety of backgrounds of the contestants and how they use their specialties to make decisions. It is important for students to see how the different fields of business overlap and can be used congruently to determine how best to approach a problem and make a decision. The tasks themselves are constructed so that students are encouraged to work together using the skills they have acquired both in economics and in other fields as well. Overall, the goal of this game is to provide

an opportunity for students to gain experience in making real-world business decisions by engaging them in a hands-on learning activity.

Brief review of active learning

An extensive list of articles in the education literature focuses on ideas for enhancing student learning in the classroom. One of the most influential ideas addressing this issue over the past couple of decades seems to be centered on the concept of active learning (also known as experiential learning or situational learning). Those in favour of active learning claim that it improves both the performance and the satisfaction of those students who are exposed to the concept (Bonwell and Eisen 1991; Salemi, Saunders and Walstad 1996).

Hansen (1986, 2001) is well known for articulating the proficiencies we should expect economics majors to have mastered upon graduation. These skills include the ability to gain access to existing knowledge, display command of existing knowledge, interpret knowledge, interpret and manipulate economic data, apply knowledge to explore issues, and create new knowledge. It is important to note that the list he generated moves from lower to higher levels of cognitive thinking as was first discussed by Bloom (Bloom *et al.*, 1956). It is the last three proficiencies that seem to be well-suited for the active learning methodology. As Salemi (2002) points out, the higher level cognitive proficiencies require practice, which in turn require students to do economics, rather than just sitting passively and absorbing information from a lecture. In addition, Siegfried *et al.* (1991) stress the importance of helping students understand what it means to 'think like an economist'. Students can only learn to think like an economist by actively applying their knowledge to problems that require critical thinking, in other words, by 'doing economics'.

There are many examples in the literature of active learning techniques that have been employed successfully in the classroom. For example, Marks and Rukstad (1996) have had success using the case method, Frank (1998) finds that in-class debates make discussion more interesting, Johnston *et al.* (2000) have seen positive results with group problem-solving activities, and Gremmen and Potters (1997) suggest that students who are exposed to experimental games learn more as a result.

Dorestani (2005: 2) states that 'active learning takes place when students are doing more than just listening'². Many researchers have found that active learning is more effective than the usual 'chalk and talk' type lectures that are still common today (Becker 1997; Becker and Watts 2001). Some of the most compelling arguments come from Phillips (1984) who claims that we remember only '10 percent of what we hear, 15 percent of what we see, 25 percent of what we see and hear, 60 percent

of what we do, 80 percent of what we do with reflection and 90 percent of what we teach'. Hawtrey (2007: 145) who refers to this teaching methodology as experiential learning, says that 'students remember only a fraction of what they hear but a majority of what they actively do'³. According to the experiential learning methodology, real learning occurs when students have the opportunity to apply concepts to different situations and experience the issues first hand.

Given the success of active learning techniques and the numerous articles that point to this methodology as a means for improving student's analytical skills, I find it imperative to develop a way to integrate these ideas into the classroom. My concept for using 'The Apprentice' attempts to capture all of the proficiencies described by Hansen (2001), as well as many of the other important skills that can be developed when using active learning methods. Through a variety of different tasks, students are given the opportunity to reach higher levels of cognitive learning through their participation in the game. Students will experience what it is like to make business decisions first hand and will hopefully gain knowledge and skills that they can apply long after leaving the classroom.

Instructions for playing the game

One of the first things to consider when developing this game is the background of the students in the class. The prerequisites of this course almost always include introductory microeconomics and sometimes even include intermediate microeconomics and business calculus. In my experience, there are typically a handful of economics majors who have had all of the afore-mentioned prerequisites plus additional courses such as econometrics or business forecasting. However, the majority of the class usually consists of students majoring in other business-related fields such as accounting, finance, marketing, international business or business administration. These students normally have only had introductory microeconomics which should be taken into consideration when putting together the teams for the first round of the game.

Using 'The Apprentice' as a guideline, the game begins by dividing the students into teams. In my experience, it is better for the instructor to determine the teams after obtaining some background information from the students.⁴ The number of teams depends on the total enrollment in the course. Ideally, each team should consist of no more than five students and the instructor should reserve the right to change the teams whenever it is deemed necessary. The current structure of the game is feasible for up to 40 students. Larger classes would work as well, although it is recommended that any presentations associated with the tasks be eliminated or reduced in length for classes with more than six teams.

The total number of tasks can vary but it is recommended that there be at least four different activities. Once a task is distributed, students are given up to one class period to begin working and then 2–3 weeks to work together outside of class to complete it. Each task typically includes some sort of presentation or final activity which should be completed during class time whenever possible. For each task, the teams elect a project manager with the stipulation that everyone takes a turn if possible. At the end of each task there is a declared winner based on the specific rules for each activity. In some cases, it works well to bring in outside judges (colleagues) to determine a winner. In other instances, the instructor determines the winning team.

In the subsequent class period following the completion of a task, all teams participate in a boardroom discussion where students are given the opportunity to voice the problems they encountered and reflect upon what they have learned. After about 45 minutes of discussion, each student on the losing teams is asked to choose two members of their team to be fired. It is recommended that this be done anonymously as personal feelings tend to become an issue otherwise.

Once the votes have been counted, new teams are formed. The instructor has the option of either randomly assigning students to new teams, or using the 'votes to be fired' as a basis. Only the winning team remains intact. At the end of the semester, after all tasks have been completed, the four students with the least amount of votes compete head to head in one final task. Each finalist forms their own team from the remaining students in the class. The winner is crowned 'The Apprentice' with the prize for the winner to be determined by the instructor.⁵

In order to encourage reflection upon what is learned from each task, students are given a set of questions both before and after the completion of each activity. After the task, it is beneficial to have some of these questions being more general in nature and they should stay the same for each task. For example, who was the weakest (strongest) member and why, how well did the project manager 'manage' the team, what types of decisions did you face, how did you reach an agreement, what was your contribution to the task and so on? By having students answer the same questions, it allows them to better analyse good and bad decisions throughout the game. In addition, a set of task specific questions can be handed out before the task (i.e. along with the description of the task) that students will provide written responses to after the completion of the task. These questions are intended to encourage the application of economic principles and to help students relate the activity to class material. These questions should be more analytical in nature to help students focus on how managers use economics to address a variety of business decisions.⁵ Examples of both types of questions can be found in the Appendix.

Once students turn in their reflection questions the instructor can analyse the responses and prepare for the boardroom discussion. As mentioned previously, this discussion should take place in the following class period and is meant to help students relate their real-world experiences to what they have learned in the classroom.

Potential tasks

Selling Lemonade

The first potential task I will describe is very similar to the first episode on Season 1 of 'The (U.S.) Apprentice'. Although very simple, this task covers a variety of different economic principles. In this task, the teams are given a specified budget (between \$10 and \$20) and are asked to sell lemonade on campus during one of the class sessions. Although it would be preferable to have at least two hours to sell the lemonade, one hour is sufficient. The winning team is the one that makes the most profit with all proceeds going to charity.

In the description of the task, a list of questions is included for the students to consider in order to encourage the application of economic principles. These questions are then discussed in the boardroom after the students have turned in their written responses. Some example questions include:

- Which determinants of demand will most likely have an impact on your ability to sell lemonade and how do you plan to address these issues?
- What is the price elasticity of demand for the soft drink industry? How do you think this relates to the price elasticity of demand for your product? Discuss how you can use this information when determining the price for your product.
- Which market structure most accurately reflects the business you are being asked to create? How will this impact your pricing strategy?
- Do you think engaging in price discrimination is a good pricing strategy given the market conditions you face? Why or why not?
- What factors are important when determining the location of your business?

In addition to the questions mentioned above, there are a number of business decisions that need to be made throughout the completion of this task that also encourage students to apply economic principles. For example, since teams are expected to work within a budget, it is useful to require students to create a spreadsheet that lists all of their fixed and variable costs which they can then use to calculate profit. It is recommended that the instructor provide some basic cost information for the inputs that are used during this task. For example, allow each

worker to receive a wage of \$2 for every 15-minute interval to encourage students to think about variable costs and the optimal number of people to employ during the task. In addition, the instructor can specify rental charges (by the hour) for items that are typically donated for use such as tables (\$1), chairs (\$0.25), coolers (\$1) and pitchers (\$0.50). Other supplies such as lemons, drink mixes, cups and ice should all be tracked by receipt and included in the spreadsheet calculations.

In addition to determining price and considering costs, teams are also encouraged to think about advertising. This could be in the form of fliers, emails, a newspaper ad, an announcement in their other classes, etc. Although there is no set limit on the amount of marketing they can do, it is recommended that the instructor set fixed advertising fees for items such as fliers (\$5 for every 50), and newspaper ads (\$10) in order to encourage a discussion regarding the costs and benefits of using these various mechanisms.

The project manager of this task faces many decisions and is in charge of delegating and overseeing all of the various aspects of those decisions. It is recommended that the project manager think about how he or she wants to organise the team (centralised versus decentralised decision making). The goal is to be creative and to make sure that every team member is being used according to their comparative advantage.

At the end of the task, students calculate their profit and turn in all monies and receipts to the instructor. To avoid dishonest behaviour, students are required to keep track of who buys the lemonade during the task and if any donations are made. A simple sign-in sheet (also to be turned in to the instructor) is sufficient.

Upon completion of this task students will be able to:

- analyse evidence about demand conditions and price elasticities to develop pricing policies and strategies.
- identify and analyse a firm's economic costs.
- explain how managers can benefit from knowledge of consumer demand, production decisions, costs, market structure and pricing techniques.
- exhibit more confidence when participating in the decision-making process in the future because of their experience working with others.

Marketing

In order to show the relationship between the fields of economics and marketing, some instructors may want to use a task that requires the students to develop an advertisement promoting a product or service. On the product side, instructors ask

students to either promote something already in production, or instead, students can take a current product, make some changes, and develop a marketing scheme promoting the 'new and improved' idea. On the services side, one example is to have the students promote the business school located within the students' current college or university. This can lead to a variety of business applications from the perspective of the school's director and other decision makers.

Before developing the advertisement, students are asked to perform an industry analysis for the product or service based on the five competitive forces model, also known as Porter's Five Forces. Instructors have some flexibility here when choosing a product or service and therefore can use this task when covering any of the market structures. The following is a list of questions for the students to consider given the industry for the chosen product or service.

- How much power do the suppliers have? What are the factors that contribute to their bargaining power?
- How much power do the buyers have? What are the factors that contribute to their bargaining power?
- How easy is it for businesses to enter the market? What are the factors affecting the threat of new entrants?
- What are the substitutes for your product (or service)? How do substitutes affect the market?
- What is the intensity of the competition in the market? What factors influence the rivalry among competitors?

Overall, this task is meant to help students understand how the strength of these forces influences profit potential within the industry by influencing prices, costs and required investments. In addition, students begin to understand how business managers can use these economic forces to improve their marketing strategies.

The advertisement can be done in any one of the following types of media: print, radio or television. Potentially, instructors may work with the public radio station affiliated with their campus and set up a recording session. In addition, instructors may also have teams present their advertisement to a small group of marketing instructors who would then use the following criteria to determine a winner.

Judging criteria for print

1. Attention-getting and overall design layout, graphics, photos and colour scheme
2. Readability and visual appearance
3. Appearance and quality of text and copy

4. Originality and presentation appeal
5. Inclusion of company slogan or logo

Judging criteria for radio and television

1. Initial impression, visual appeal and/or voice-over quality
2. Content and clarity of message
3. Overall production quality
4. Inclusion of company slogan and/or catchy jingle
5. Emotional response, attention-getting

Upon completion of this task students will be able to:

- describe the relationship between marketing and economic principles using Porter's Five Forces model.
- perform an industry analysis.
- explain how managers can benefit from knowledge of consumer demand, production decisions, costs, market structure and pricing techniques.
- exhibit more confidence when participating in the decision-making process in the future because of their experience working with others.

Applied theory

In this task, students take on the role of either pricing or sales manager for a company. Using a case prepared by the instructor, or one found from a variety of resources, students respond to a series of memos sent to them by the company's senior executives. Each memo has a specific problem to be addressed related to either pricing or sales. Students put together a portfolio and a presentation for the executives answering the questions that each memo proposes. Students are expected to respond just as they would in a real-world setting with just enough detail so that someone without a background in economics could easily understand the recommendations. Presentations should be no longer than 15 minutes.

Students are judged by the instructor on the following:

- did you make the correct recommendation?
- did you explain your decision in enough detail? Is it easy to follow?
- the professionalism with which you present your recommendations.

A good case to use as a reference (or implement) for this task is found in Baye (2008).⁶ The case is based on Time Warner Inc., a company that formed through a merger of a

magazine publisher Time Inc. and a producer of film and television programming, Warner Communications.⁷ The case itself provides background information on the company including a variety of financial statements which becomes useful when answering the task related questions contained within the memos.

The authors provide a variety of memos which allows for the application of many economic principles. For example, the first memo provides data on the demand and costs for a particular channel that the company's cable division is evaluating. Students are asked to determine whether a lower price will increase revenue and to give an estimate of the monthly revenues that can be achieved by adding this channel to the lineup. For those instructors who introduce regression analysis, data tables are provided which allow students to construct an estimated demand and cost function. For those who do not cover this topic, the demand and cost functions can be provided to the students for use in the calculations.

Some of the other economic applications contained within the memos include the use of the profit-maximising rule to determine the optimal channel lineup for different regions, the use of the shutdown rule in the context of a price war to determine the lowest price the company can charge before having to exit the market, and the use of income elasticity to determine the price needed to keep the existing customer base.

Upon completion of this task, students will be able to:

- predict how revenue will be affected by a change in the price of a product by using the concept of price elasticity.
- estimate demand and cost functions and use the results to make output decisions.
- apply the profit maximisation and shut-down rules using demand and cost functions.
- apply the concept of income elasticity to pricing decisions.

Company profile

In this task, each team is given a real-world company and is responsible for constructing a company profile that will be presented to a group of potential clients. Teams are judged based on their knowledge of the company rather than the investment potential of the company selected. This task provides research experience, increased knowledge of data sources, and the chance for students to analyse a company from an economic perspective. It is recommended that instructors select a publicly traded company so that the data is readily available. In

larger classes, instructors may wish to exclude the presentation and judge students based on a written version of the profile only.

Teams should be instructed to identify the following:

- the name of the company.
- the company's shareholders (include a brief discussion regarding the shareholders connection to one another).
- locations of the company properties.
- the company's primary industry by name, its Standard Industrial Classification (SIC) code and its North American Industry Classification System (NAICS) code.
- the company's customers and rivals.

Instructors can then use any of the following questions to encourage the application of economic principles:

- what are the major determinants of demand for the company's primary product(s)? Describe how these determinants differ across customer segments.
- has the company experienced any changes in these determinants over the past five years? (Has demand changed for any reason?)
- describe the price elasticity of demand for the company's primary product based on the number of available substitutes and the price level relative to customers' budgets.
- how much pricing power does the company have? Explain how this relates to the market structure of the industry in which the company operates. How does the company distinguish itself from its competitors?
- what are the explicit costs for this company? Describe how any potential implicit costs would impact the company's profit.
- describe whether the firm is acting efficiently. That is, is the company employing assets in their highest-valued uses? If yes, provide evidence. If no, make suggestions for improvement.
- would you advise the company to undertake either a horizontal or vertical merger of any kind? If so, describe the type of company it should merge with and explain why you feel it would work to their advantage. If your answer is no, describe the drawbacks of a merger.
- discuss how the current economic situation would be reflected within the industry selected, and in particular, for the company under investigation.

Upon completion of this task, students will be able to:

- identify sources of information for publicly traded companies
- identify and analyse a firm's economic costs

- analyse the costs and benefits of horizontal and vertical mergers
- explain how managers can benefit from knowledge of consumer demand, production decisions, costs, market structure and pricing techniques.

Business application

This task involves creating an innovative business application for one of the topics covered in a managerial course. Students are asked to develop an application that could be used in a managerial class to help students better understand a concept. Examples include writing a short case, finding an article in a newspaper or magazine that demonstrates a concept, using a television show or movie to demonstrate an example, or possibly even creating a game or experiment for classroom use. Students may also be asked to present their innovation to a group of former managerial students and/or a panel of economics instructors. Presentations should not exceed 15 minutes and the winning team is selected based on a survey given to the audience.

This task provides a great deal of flexibility for the instructor. It is recommended that instructors choose a specific topic and have students find examples of how managers use the theory in a real-world setting. For example, if game theory is chosen, students can examine the conflict between Sony and Toshiba over high-definition DVD formatting. In addition, a list of questions should be developed for the students to answer within their analysis. Some general questions for game theory would include:

- who are the players in your example?
- what are the strategies?
- what are the outcomes or consequence? What are the payoffs?
- are the decisions made simultaneously or sequentially? Is it a one-shot or repeated game?
- does your example reflect the outcomes of a prisoner's dilemma? Why or why not?
- how does the industry's market structure impact the firm's pricing strategies?

Although the learning outcomes will vary depending on the preferences of the instructor, given the example I use above, upon completion of this task, students will be able to:

- apply game theory rules to a real-world example.
- analyse strategic interactions among firms and explain the importance of considering a rival's responses when choosing a strategy.
- explain how managers can benefit from knowledge of consumer demand, production decisions, costs, market structure and pricing techniques.

The final task

In the final task, the top four students (those with the least amount of votes) compete in a championship round in which the winner is named as the apprentice. Each student chooses team members (from the class) to help them complete the task. There are two potential tasks that seem appropriate for the final round. The first possible task is to develop an idea for a business that the team wants to locate on their school's campus. The team is required to make a presentation to a panel of potential investors (business school faculty) using a basic business plan format. The business can be based on a new product or service not currently in existence, a modification of a current product or service, or a product or service already currently in the market. Each team has 20 minutes to present to the investors with approximately a 10-minute question and answer session to follow.

When preparing the presentations, students are asked to focus on why this is a good opportunity, an industry analysis and overview of the marketing plan, the expected outcome (sales, costs, and profit) and any recognised risks and how these will be addressed. In addition, teams should be prepared to answer questions about the production, operational and financial plans. The motivation behind this task is that it brings together components from the previous tasks and also allows students to be creative when developing their own vision for a business to be located on their colleges' campus. More specifically, some of the major learning outcomes from the previous tasks are reinforced along with the overall goals of game. For example, upon completion of this task students will have gained:

- analytical skills and used economic analysis to make well-informed decisions
- leadership and interpersonal skills
- communication skills, entrepreneurial and marketing skills, and the ability to relate their area of expertise to other associated fields
- more confidence when participating in the decision-making process in the future because of their experience working with others
- an understanding of how managers can benefit from knowledge of consumer demand, production decisions, costs, market structure and pricing techniques
- knowledge about demand conditions and price elasticities and their relevance to pricing policies and strategies
- an understanding of the importance of a firm's economic costs
- the skills to perform an industry analysis

For those instructors who cover auction theory, the second possibility for the final task is for each team to obtain donated items from local businesses to be auctioned off for charity at a campus fundraiser. Teams would face the challenge of finding

items that college students would be interested in bidding on and putting together an event that would attract as many potential auction participants as possible.

The type of auction to be performed is decided upon by each project manager, however, the choices are limited to either an English, Dutch, sealed-bid or second-price sealed bid auction. To ensure that students carefully analyse their options, each team is required to submit a written report that demonstrates their knowledge of each type of auction and explains the reasoning behind their choice. It is recommended that the teams be judged on both the total amount of money raised and their written report.

Upon completion of this task students will have gained:

- leadership and interpersonal skills
- communication skills and marketing skills
- more confidence when participating in the decision-making process in the future because of their experience working with others
- an understanding of how managers can benefit from knowledge of consumer demand and costs
- knowledge about demand conditions and price elasticities and their relevance to pricing policies and strategies
- an understanding of auction theory as it applies to a real-world example

Reflections on the implementation of 'The Apprentice'

In the Fall 2008 I implemented 'The Apprentice' in my 15-week managerial economics course. I began the semester with 27 students and ended with 23. Most students were in their junior or senior year, although I did have two sophomores. All but two students had declared majors in economics, management, finance or engineering, and all but one student had completed a business calculus course. I began by splitting up the class into five teams consisting of either five or six students each. I also split up the majors as equally as possible.

During this semester, I had a total of 37.5 contact hours and I devoted approximately 12 of those hours to activities related to the game. I used five tasks with approximately two weeks allotted for each activity. In hindsight, I do believe the students felt a little rushed at times and would therefore recommend four tasks with three weeks allotted for each task. I also believe that no more than five students should be assigned to each team. There were occasions when students commented that they felt left out and I believe having teams of 4–5 students would help resolve this issue. It is worth mentioning that I waited until after three tasks

had been completed before I revealed to the students how many votes to be fired they had received. This seemed to work well as the votes were fairly spread out.

The points earned from the various activities associated with the game accounted for approximately 40 percent of the student's grade. Each task was worth 40 points with 20 points coming from the associated task questions, 10 points from the boardroom discussion, and 10 points from a peer evaluation. In addition, students received deductions from their total based on what place their team finished in for each task. The second place team lost 1 point, the third place team lost 2 points, and so on.

The first task I conducted was the 'Lemonade Stand'. Students made comments during the task that they enjoyed the competitiveness and creativity that this activity encouraged. The only downside to this task was the timing. Many potential customers (students) were in class while the lemonade was being sold. However, the winning team had a great strategy of using a 'mobile' stand and selling lemonade in the classrooms with prior consent from the instructor.

The second task I used was the 'Marketing' activity where students are asked to promote their college. Students enjoyed the concept of this task but many commented that there was not enough time to put together a polished final product. Although I thought the projects were good, I do believe they would have been much better if the students had had another week to work on them.

Since the third task overlapped the first exam in the course, I used a case from Baye (2008) that allowed students to apply the concepts I had been covering in the course to a real-world scenario. More specifically, students were asked to solve problems and make recommendations on pricing strategies based on company data. The task was assigned before the exam, and students were encouraged to work on the problems as a good exercise to help them study. Again, the students enjoyed seeing the theories from class applied to a real-world scenario, but suggested that the task be completed before the exam (not after) so they could review the material and check their answers. I would also recommend including some sort of presentation similar to a business meeting where students could present their findings. Having the students discuss their recommendations would give each team a chance to see how everyone developed their ideas and would potentially help some students better understand the concepts.

In the fourth task, I engaged the students in a strategy game called Puerto Rico. Although Puerto Rico is a board game, the rules do not allow for much chance or luck and therefore it encourages students to apply game theory concepts from class. Puerto Rico forces players to always consider how their actions will affect other teams, and to be successful, students must develop a strategy based on what

they think others will do. Overall the students enjoyed this task, but the fact that it was a board game did bother some of them. Currently, I am looking for another task that applies game theory concepts and provides more of a real-world experience.

For the fifth task, I was originally going to use the 'Product Development' idea, but was worried that it would be too time consuming so late in the semester, especially given the two-week timeframe. Therefore, I decided to use a review game for this task instead. The purpose of the review game was to give the students an incentive to start studying for their final exam. During our regular class session, teams participated by answering questions related to the material we covered in class. Each team sent one person to the front of the room to be in the 'hot seat'. This individual was responsible for answering the question I placed on the overhead. The first student to answer the question on his/her own earned 3 points for the team. If the student answered incorrectly, the team lost 1 point. In addition, the student in the 'hot seat' had the option of 'phoning a friend'. This allowed one additional team member to participate in answering the question. Together with a friend, the first to answer the question correctly earned 1.5 points. If together they answered incorrectly, they lost 2 points. Teams were encouraged to meet and discuss their strengths and weaknesses to help in determining which friend would be most helpful in various scenarios. A 'Final Jeopardy' style question was asked near the end of the class period.

Students commented that the review game did provide incentive to start studying and, in addition, helped some students figure out which concepts they still needed to work on. I also felt the game was a success but would recommend stricter rules for the 'phone a friend' option. More specifically, I would only allow three phone a friend options per team to keep the 'stronger' students from being relied upon too heavily. Unfortunately, this task did not meet my initial goals of providing students with a real-world business experience, and therefore, it is unlikely I would use it again as a task (although I would use it as a review tool).

For the final task, I used the idea of developing a business to be located on the college's campus as described earlier. I invited a management, economics and finance instructor each to act as potential investors (judges). The teams had three weeks to prepare their presentations which seemed to be an adequate amount of time. I would also suggest keeping the presentations to 20 minutes, but allowing at least 15 minutes for the judges to ask questions instead of the 10 I originally allotted.

Finally, I believe the most successful aspect of this game for the students was the experience of being project manager. Students commented that they gained an appreciation for the hard work it takes to organise and motivate a team. Students

also believed that leading a team helped to improve their decision-making skills and made them more confident about holding a management position in the future.

Concluding remarks

One of the main learning objectives for a managerial economics course is to introduce students to the types of business decisions that managers face and to provide them with a set of economic tools that can be used in the decision-making process. In addition to this objective, it is also important that we incorporate a variety of teaching methodologies to help students develop the skills that businesses tend to look for when hiring new employees. By using 'The Apprentice' game in conjunction with the more traditional lecture format, students are provided with the opportunity to analyse a variety of business problems, look for the optimal solutions, implement decisions, and evaluate the outcomes. When using this type of active learning technique, not only do students gain a better understanding of how to use economic principles in decision making, but they also are exposed to how these decisions relate to other fields such as marketing, management and finance.

The importance of getting students actively involved in the learning process cannot be overstated. When provided with the proper incentives, students can gain a much deeper appreciation of the usefulness of economics in the business world when they experience first-hand the results of their own decisions. The real-world setting that this game creates is intended to help students build the skills and the confidence they will need to make better decisions in the future by engaging them and asking them 'to do economics'.

Appendix

Example Questions for Selling Lemonade

- Who was the project manager (PM)?
- On a scale of 1–10 (with 10 being high) rank the PM's performance on this task.
 - Name at least two strengths of the PM.
 - Name at least two weaknesses of the PM.
 - Please provide some further comments on the PM's performance.
- Rank the rest of your teammates' overall performance on a scale of 1–10 and describe their specific contribution to the task. Please include your own name, rank and contribution as well.

Name: Rank: Contribution:

Name: Rank: Contribution:

Name: Rank: Contribution:

Name: Rank: Contribution:

Name: Rank: Contribution:

Briefly comment on the number you chose above for each team member – you can discuss strengths/weaknesses, contribution in more detail, etc.

- At this point (prior to the boardroom), which two team members would you choose to fire and why? (This may change after the boardroom discussion.)
- What did you learn about running a business that you did not know before this task?
- Now that the task is complete, what would you have done differently? Explain.
- Did the PM motivate you? If yes, what were his/her tactics?
- Did the PM ask you about your strengths? (i.e. Did he/she use you according to the principle of comparative advantage?)
- Discuss the importance of location choice for your lemonade 'stand' and for other businesses in general?
- Which market structure most accurately reflects the business you created?
- Which determinants of demand impacted your ability to sell lemonade and how did you address these issues?
- What is the price elasticity of demand for the soft drink industry? How do you think this relates to the price elasticity of demand for your product?
- Describe how price was determined. (i.e. What economic principles were/should have been discussed?) Did you use any forms of price discrimination? Why or why not?
- How is price normally determined in business?
- What impact did competitors (or other available substitutes or complements) have on your sales?
- Was your lemonade 'stand' marketed properly? Explain
- Are there any other economic concepts that you used in this task that have not already been mentioned? Explain.

Note: Some of the questions for the project manager are different. For example, questions 1–3 become:

- On a scale of 1–10 (with 10 being high) rank your own performance on this task.
- What type of organisational style did you choose for managing your team? (centralised, decentralised, subunits, etc.) i.e., Discuss how you chose to 'run' the team. Name at least two of your strengths and two of your weaknesses as PM.
- Rank the rest of your teammates' overall performance again on a scale of 1–10 and describe their specific contribution to the task.

And questions 7 and 8 become:

7. How did you motivate your team?
8. Did you ask your team members about their strengths? (i.e., Did you use them according to the principle of comparative advantage?)

Additional questions can also be added such as, 'What did you learn about being a manager that you did not know before this task?'

Notes

- 1 The skills firms are looking for was collected from the Arizona State University, Career Services, 2007 <http://career.asu.edu/S/LA/Skills/LASkillscritical.htm>.
- 2 For a more detailed description see Ryan and Martens 1989
- 3 For a more detailed description see Senge 1990, Borg and Stranahan 2002, and McClean and Tatnall 2000.
- 4 I ask the students to provide me with information on their major, previous economics and management courses taken and work experience. I then form teams that have students with various backgrounds.
- 5 The prize I use is additional points added to the student's final score. I would recommend at least 75 points for the winner, and 20 points for the other three students as the final task is rather time consuming. I also allowed the other students on the team's to earn up to 10 points as well, but found that this number was not high enough for all students to have the incentive to put forth maximal effort.
- 6 It is also recommended that students keep a portfolio of the reflection questions either in a notebook or online using Blackboard or the equivalent.
- 7 Instructors may want to use a local company to make the application more relevant to the students.
- 8 Instructors could also use this case to develop a task related to acquisitions and mergers.

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